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THE STATE OF EUROPEAN TECH

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Welcome to the third edition of the State of European Tech Report

Since we began this project in 2015, our ambition has been to build a rich and nuanced narrative of European technology and how it is evolving. A multi-layered story, not just a moment in time.

At Atomico, we believe it is only possible to do this based on a number of data sources and different factors. Which is why we've worked with an incredible set of data partners, surveyed thousands of people within Europe's tech ecosystem, and spoken with those at the heart of it all - to develop meaningful, localised data insights that tell the real story about what's happening on the ground.

This year's findings reveal the state of European tech in 2017 is the strongest it has ever been. Europe is building a tech ecosystem in its own image, defined by deep tech expertise, incredible geographic diversification, and a uniquely collaborative approach with traditional industry. The solid foundations that have been laid - a huge and deep talent pool, founders with global ambition levels, and a large, growing and increasingly sophisticated investor base - means that Europe marches to its own beat. The question of whether Europe can produce world-class innovation has been put to bed. The question of whether it can produce a \$100Bn company has been put to bed. And the probability that the next industry-defining company could come from Europe - and become one of the world's most valuable companies - has never been higher.

We hope you enjoy diving into this year's report, which we believe is the single, most comprehensive data-driven story of European technology today.

Tom Wehmeier

Partner and Head of Research, Atomico

About this report

We are excited to share the third edition of The State of European Tech report with you all and hope you will find it to be the singular, most comprehensive and data-driven portrait of Europe's technology ecosystem to date.

As in previous years, we've been ambitious about the data partners we've partnered with: teaming up again with LinkedIn, Stack Overflow, Meetup, Dealroom.co, the London Stock Exchange, Quid, European Startup Initiative, Signal and Invest Europe, and adding new partners including the European Investment Fund, Craft.co, and TokenData.

The strength and integrity of our report relies on being able to draw meaningful insights from a number of different sources and data points. With the support of our data partners we have been able to carefully build the most accurate picture of what is going on in European tech, right now.

One area we wanted to double down on in 2017 was geographic diversity, to ensure our report had roots across Europe's broad and diverse ecosystem - not just the traditional hubs.

So this year we have worked with a number of strategic distribution partners to help us delve deep into Europe's ecosystem. Our survey was conducted from 6th September - 15th October 2017 and with the help of our distribution partners we received over 3,500 responses - including over 1,000 European founders from across the continent. The survey enabled us to gather thousands of qualitative insights from those right at the heart of what's happening on the ground, across the wide European ecosystem, not just London, Paris and Berlin but also Reykjavik, Sevilla, Sofia and everywhere in between.

We have also spoken intimately with a select group of over 50 founders, entrepreneurs, investors and policymakers at the cutting edge of Europe's technology landscape - capturing their insights in different sections of the report to bring the hard data to life. In the process of putting together this report we spoke to José Neves (Farfetch), Herman Narula (Improbable), Ian Rogers (LVMH), Mounir Mahjoubi (Macron's digital minister), Dr Jeannette zu Fürstenberg (La Famiglia), Ilkka Paananen (Supercell), Urska Srsen (BellaBeat), Antoine Bordes (Facebook Artificial Intelligence Research - FAIR), Fleur Perellin (Korelya Capital), Reshma Sohoni (Seedcamp) and Robin Klein (LocalGlobe) - to name just a few.

As well as the magazine you are now holding in your hands, for the very first time the report is also being housed on its very own interactive website where you can explore the data in even more detail. You can find us on www.stateofeuropeantech.com



About Atomico

Atomico invests in disruptive technology companies with ambitious founders from Series A onwards.

Our experienced team includes entrepreneurs and executives from the world's most successful technology firms who partner with our companies as they scale to become global winners.

We're not a traditional venture capital firm. We exist for more than returns, even though it is our lifeblood. Since we began our work in 2006, we've always set our sights much higher. At our core, we believe entrepreneurs are the ultimate agents of positive, transformational change across every aspect of our society and economy.

To us, our work is our mission. When you spend time with us, you'll see that our firm is built by, and for, founders. It's why we invest from Series A onwards, because we want to help founders take a product that works and make it a global success. And it's why we've built the most experienced team possible, with a clear and systematic approach, to help founders turn their vision into something that changes the world for the better.

While we invest globally, our focus is Europe. The strength and depth of European founders is increasing all the time, and we strive to help them succeed globally. We believe many of the next truly transformative companies will come from Europe.

We look for the most ambitious founders, the people who want to build the next leader in their category or the company that changes a fundamental component of our economy and society. The founders who want to use technology to rewire the world in favour of something better for as many people as possible.

You can find out more by visiting our website, reading our manifesto, and looking at the companies we invest in - but in the meantime, we hope you enjoy the State of European Tech Report 2017.



About Slush

Slush is a global movement supporting the next generation of groundbreaking founders.

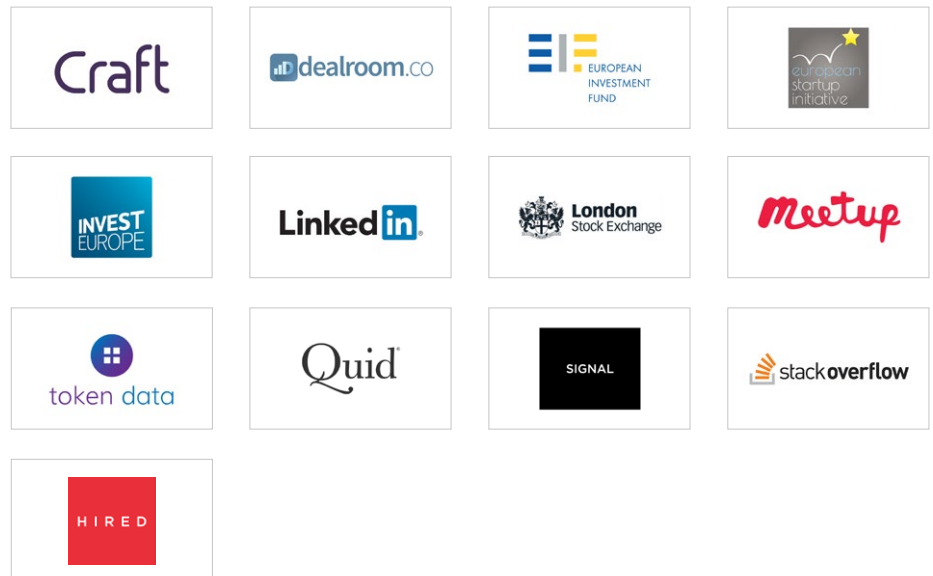
In 2017, Slush gathered more than 45,000 people in its 75 events all around the world from South Africa to Tokyo. The non-profit initiative was established by a group of entrepreneurs in Helsinki in 2008. Today, the year of Slush culminates every November when 20,000 founders, investors, media and executives from +130 countries gather in Helsinki.

Despite having grown in just a few years from a 300-person assembly to a world-renown event, the philosophy has remained the same: supporting world-conquering founders.



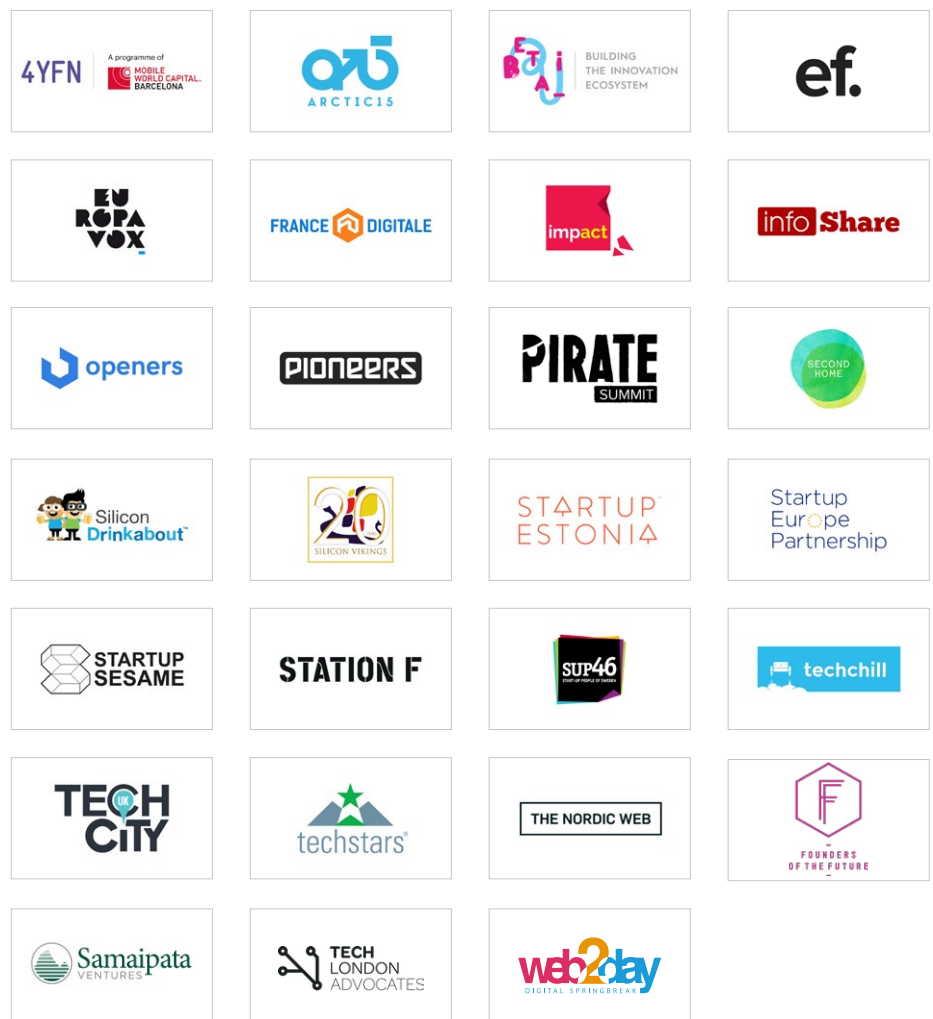
Data Partners

Supported by data from our amazing partners



Distribution Partners

Powered by Europe's startup community



Interviewees

We gathered insights from over 50 people across sectors, across Europe



Alex Stubb
VP & Member of the
Management Committee
EIB



Andreas Saari
Co-Founder & CEO
Wave Ventures



Alastair Band
Co-Founder
Blockchain Beginners



Angus Maidment
Co-Founder
Blockchain Beginners



Antoine Bordes
Research Lead
Facebook Artificial
Intelligence Research
(FAIR)



Barnaby Hussey-Yeo
Co-Founder & CEO
Cleo



Benjamin Lickfett
Head of Technology &
Innovation
Diageo



Ben Pugh
CEO
Farmdrop



Brent Hoberman
Executive Chairman;
Founders Factory,
Founders Forum,
firstminute capitalv



Stefano Bernardi
Co-Founder
Token Economy



Christopher Grew
Partner
Orrick



Dan Hynes
Partner & Head of Talent
Atomico



Daniel Wiegand
Co-Founder & CEO
Lilium Aviation



David Kelnar
Investment Director &
Head of Research
MMC Ventures



Ella Goldner
Founding Partner &
General Manager
Zinc VC



Erik Engellau-Nillson
CEO
Norrskén Foundation



Fleur Pellerin
CEO & Founder
Korelya Capita



George Danezis
Professor of Security
and Privacy Engineering,
University College
London



**Dr. Jeannette zu
Fürstenberg**
Managing Partner
La Famiglia



Jimmy Wales
Founder
Wikipedia, WikiTribune



Jan Erik Solem
CEO & Co-Founder
Mapillary



José Neves
Founder & CEO
Farfetch



Juan Urdiales
Co-Founder & Co-CEO
Jobandtalent



Jutta Steiner
Founder
Parity Technologies



Kati Levoranta
CEO
Rovio



Kristel Kruustük
Founder & CEO
Testlio



Lenard Koschwitz
Director for European
Affairs
Allied for Startups



Luciana Lixandru
Partner
Accel



Michael Collins
CEO
Invest Europe



Mounir Mahjoubi
French Secretary of State
in charge of Digital Affairs



Neil Murray
Angel Investor
The Nordic Web



Niklas Zennström
CEO & Founding Partner
Atomico



Oscar Farres
Head of Unit, Investments
Technology & Innovation
EIF



Remo Gerber
Chief Commercial Officer
Lilium Aviation



Reshma Sohoni
Founding Partner
Seedcamp



Robin Klein
General Partner
LocalGlobe



Samuel Mueller
CEO and Co-Founder
Scandit



Sean Bave
General Manager
Stack Overflow Talent



Stephen Lowery
Managing Director
Silicon Valley Bank UK



Timo Rein
Co-Founder
Pipedrive



Urska Srsen
CPO & Co-Founder
BellaBeat



Xavier Niel
Entrepreneur
Station F



Yannick Roux
General Partner
First Matter



Mattias Ljungman
Atomico
Partner



Hiro Tamura
Atomico
Partner



Carolina Brochado,
Atomico
Partner



José del Barrio
Founding Partner
Samaipata Ventures



**Elina Berglund
Scherwitzl**
CTO & Co-Founder
Natural Cycles



Marianne Vikkula
CEO
Slush



Nikhil Rathi
CEO
London Stock Exchange
PLC



Romain Lavault
General Partner
Partech Ventures



A word from Orrick

As a law firm, Orrick focuses on the tech industry and technology entrepreneurs.

As a firm originating out of Silicon Valley which has expanded into Europe, with offices in Germany, France, UK and Italy, our pan-European footprint reflects our belief that Europe is an important geographical area for the technology industry. We also feel well placed to comment on the trends driving the technology ecosystem in Europe.

We believe we have a role in the ecosystem but to play a full role you need to make sure you fully understand the environment in which you operate. That is why we support the publication of the State of European Tech report, now in its third year providing a complete analysis of European tech to entrepreneurs, VCs, governments, law firms like ours, students and other stakeholders.

Whilst Europe can be viewed as fragmented on a country-by-country basis with a plethora of different languages, there are certain strengths to celebrate across the continent.

Europe has historically played a pioneering role in the technology industry: a world leader in areas such as mobile and fintech, where Europe has been well-advanced and way ahead of Silicon Valley and the US as a whole. Europe also outnumbers the US for programming talent, and we believe it is going to continue to succeed on the global stage, as it doubles down on the advances it is already making in AI, cryptocurrencies and deep tech.

This report makes it clear the funding environment for European technology companies is still very healthy and the appetite for investments in European technology companies is unsurpassed.

We're talking not just early stage and venture funds but the growth funds, late stage funds and Softbanks of the world.

The times are-a-changing. Traditionally, European companies looking to be acquired have looked to Silicon Valley for their salvation. Today, they're looking to the US as a destination to acquire, demonstrate their success or to expand internationally.

What is most interesting to us as a law firm is the changing regulatory landscape. Yes, you will see in the Regulation section of the report that more needs to be done by governments to incentivise the development of new technologies such as drones, autonomous vehicles and crypto currencies. At the same time we are starting to see the green shoots of regulatory maturity. The government in Sweden is allowing for the reimbursement of mobile-only doctor services, the Estonian government is enabling delivery robots to use the country's sidewalks, the UK is a cheerleader for new open banking rules whilst the Swiss government is embracing the potential of crypto currencies.

We're thrilled to be involved with the State of European Tech report this year, contributing to one of the most nuanced and data-driven portrayals of what's happening in European technology today. As evidenced in the pages of this report European technology has undoubtedly had a breakthrough year but what excites us the most are the opportunities that lie ahead.

Christopher Grew

Partner, Technology Companies Group
Orrick

REPORT PARTNER

About Orrick



Orrick is a global law firm focused on serving the technology, energy & infrastructure and finance sectors. Structured as one team, our lawyers work across 25+ markets in Europe, the United States, Asia and Africa.

Orrick counsels more than 1,800 tech companies, as well as the most active funds, corporate venture investors and public tech companies worldwide. Our focus is on helping disruptive companies tap into innovative legal solutions. We are a top 10 law firm for global M&A volume (MergerMarket) and the #1 most active law firm in European venture capital, and M&A exits (Pitchbook). We offer holistic solutions for companies at all stages, executing strategic transactions but also protecting intellectual property, managing cybersecurity, leveraging data and resolving disputes. We are helping our clients navigate the regulatory challenges raised by new technologies such as crypto currencies, autonomous vehicles and drones. A leader in traditional finance, we work with the pioneers of marketplace lending. We innovate not only in our legal advice but also in the way we deliver legal services, earning us the #1 spot on Financial Times' list of the most innovative law firms in North America in 2016.

REPORT PARTNER



Silicon Valley Bank

About Silicon Valley Bank

For more than 30 years, Silicon Valley Bank (SVB) has helped innovative businesses, enterprises and their investors move bold ideas forward, fast.

SVB provides a range of targeted financial services and expertise through its office in the UK. With commercial and international banking services, SVB helps address the unique needs of innovators. The UK's leading technology and life science businesses, in all stages of development, look to SVB's niche expertise, 30 years of experience and unparalleled network, as they grow at home and tackle new markets abroad. Learn more at svb.com/uk

DESIGN



About Studio Lovelock

Studio Lovelock are a digital design studio in South East London powered by a love of ambitious ideas and distinctive design.

Since 2012 they've been helping exciting brands grow, engage and delight their audiences. They collaborate on charismatic design that cuts through the noise, makes an authentic connection, and takes their clients branded communication to the next level.

Their team brings experience, intelligence and a playful enthusiasm to each and every design brief. They focus on brand identity, websites, animation and social media content.

Visit www.studiolovelock.com to view their portfolio.

EVOLVING EUROPE

A lot has happened since last year's report

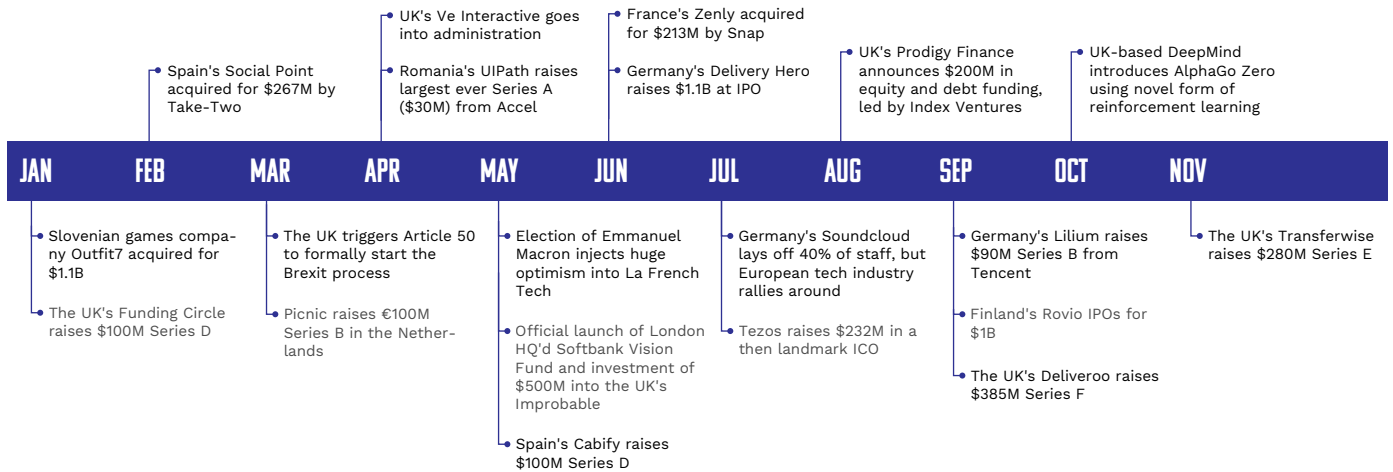
Emmanuel Macron is the new President in France, the Eurozone posted a second solid quarter of growth and continuing Brexit negotiations dominate the news in both the UK and occasionally across the continent.

Macro political and economic upheavals are to be expected. The question we explore in these pages is, to what degree is the tech world immune to these developments - and could it be entering bear territory?

2.1

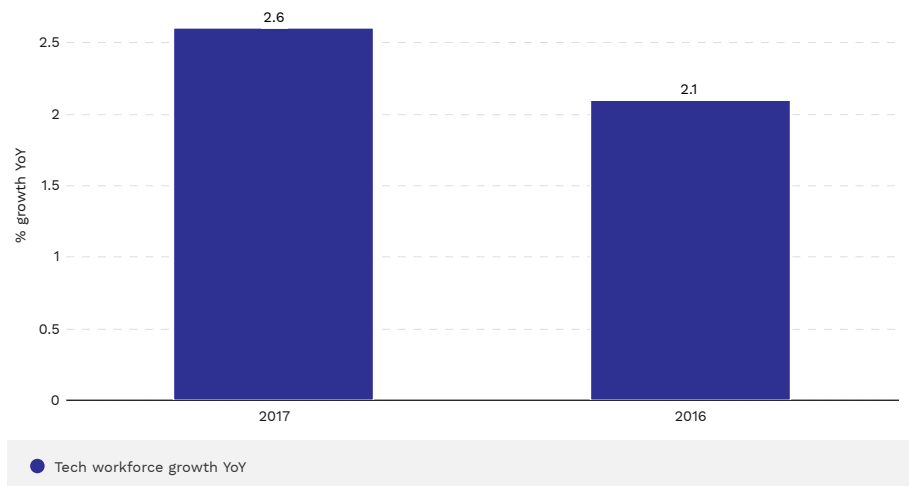
It's been a big year for European tech

A year marked by a number of hugely important milestones for European tech



Europe's tech industry is creating jobs faster than the rest of the European economy

Tech industry workforce growth versus forecast EU employment growth, 2017 versus 2016



Note:

Based on an analysis of sample pool of LinkedIn members and the difference between those in Oct 2016 working in the Tech Sector in each country from this sample pool and those in Oct 2017

Source:

LinkedIn

Europe's tech workforce is growing significantly faster than overall EU employment

3x

year-on-year growth in European tech worker population in 2017, compared to just 0.8% growth in overall EU employment in 2017, according to the European Commission's latest economic forecast for Winter 2017

It's been a busy year for European tech



“

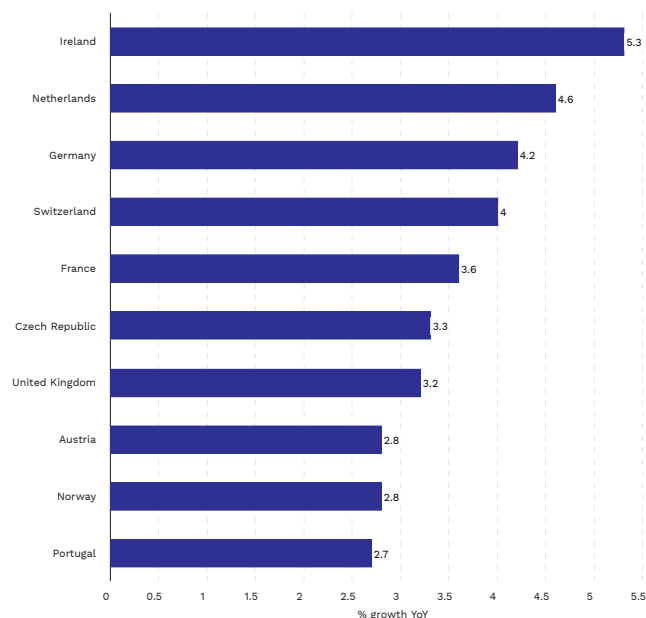
Of course Europe is a fantastic place to start and grow a company. Just look at companies like Spotify, Skype, TransferWise, or BlaBlaCar: they are European unicorns. The biggest startup events take place in Europe, the level of capital available has skyrocketed in the past years. Europe is made of tens of different cultures, it's our biggest advantage. The more diversity you can find among entrepreneurs, the more you will find innovative businesses, creativity, and value created.

Xavier Niel
Station F

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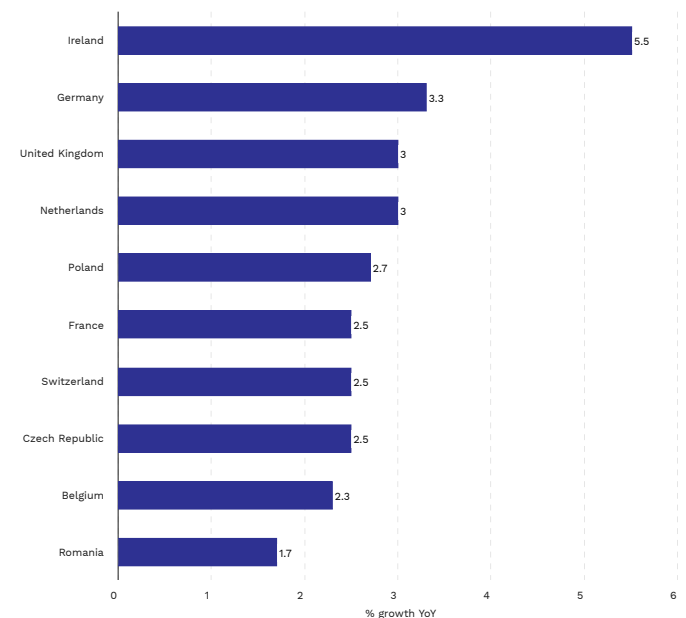
Europe's fastest-growing tech worker populations are growing at an even faster rate

Top 10 fastest-growing tech worker populations of 2017



For additional context, it is worth analysing a similar dataset covering tech talent movement in 2016 provided by LinkedIn for last year's State of European Tech

Top 10 fastest-growing tech worker populations of 2016



Note:

Based on an analysis of sample pool of LinkedIn members and the difference between those in Oct 2016 working in the Tech Sector in each country from this sample pool and those in Oct 2017.

Source:
LinkedIn

2.2

Europe has a strong sense of optimism about the future of its tech ecosystem

While there are notable differences across countries, Europe as a whole demonstrates bullishness about the future of its tech ecosystem

The level of optimism among European founders is strong

90%

of European founders are either more optimistic about the future of European tech, or maintain the same levels compared to 12 months

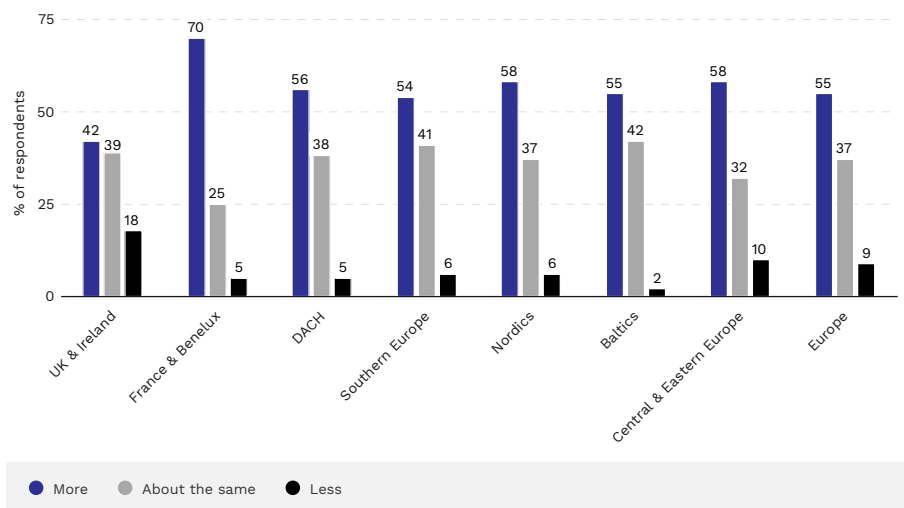
However, confidence levels in the UK are materially lower

27%

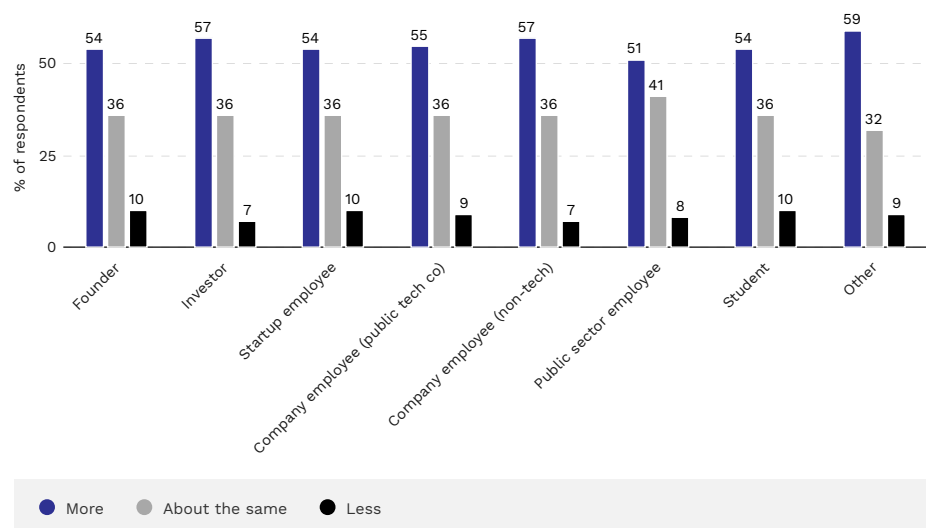
of UK founders are less confident about the future of European tech compared to 12 months ago, compared to just 6% of founders from all other countries

Are you more or less optimistic about the future of European tech today than you were 12 months ago?

Geography



Occupation



“

I was optimistic about European tech 12 months ago, and feel just as positive about the state of European tech today. The ecosystem is constantly evolving, and its momentum is accelerating. You can find world-class levels of ambition, innovation and disruption across the continent in more established tech hubs like London, Paris and Stockholm, as well as in emerging hubs like Amsterdam or Barcelona.

Luciana Lixandru
Accel

”

Europe has a strong sense of optimism about the future of its tech ecosystem



“

It is absolutely easier to build a European tech company today than it was five years ago. If you look at the mobile games business or where mobile is a platform, the app store distribution model has completely democratised distribution, there are things like cloud technologies that make it easier than ever to scale your service. What it really means is that great companies today can come from any country and it is way easier than it was five or ten years ago.

Ilkka Paananen
Supercell

”

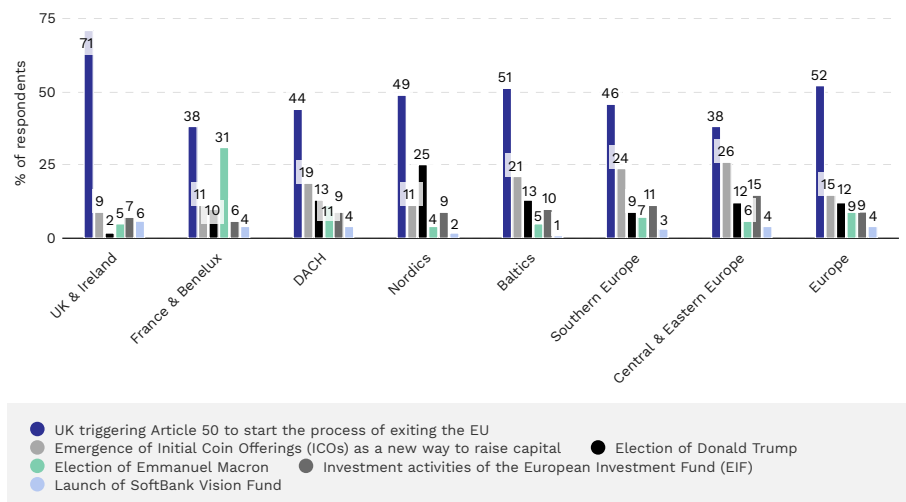


Europe's tech ecosystem is feeling the impact - positive and negative - of macro events

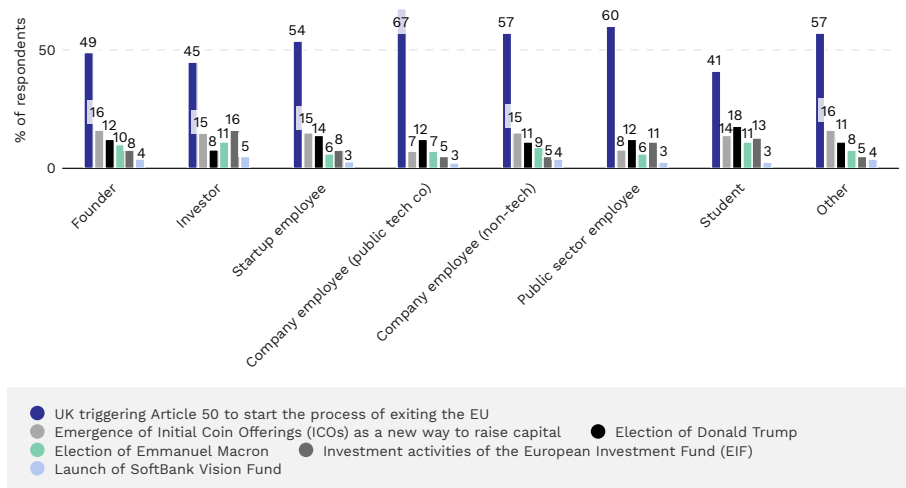
Europe's tech community views the UK's triggering of Article 50 as the most material event of the past 12 months

Which event of the past 12 months has had the most material impact - positive or negative - on Europe's tech ecosystem?

Geography



Occupation



Note: Numbers may not add to 100 due to rounding

Source: The State of European Tech Survey 2017



“

Compared to 12 months ago, I have actually got less excited about European tech and the European tech scene. “Less excited” is maybe not right the word... “more pessimistic.” I am deeply concerned about - frankly - the train wreck of Brexit. I am afraid of it spiralling out of control.

Jimmy Wales
WikiTribune & Wikipedia

”

Europe's tech ecosystem is feeling the impact
- positive and negative - of macro events

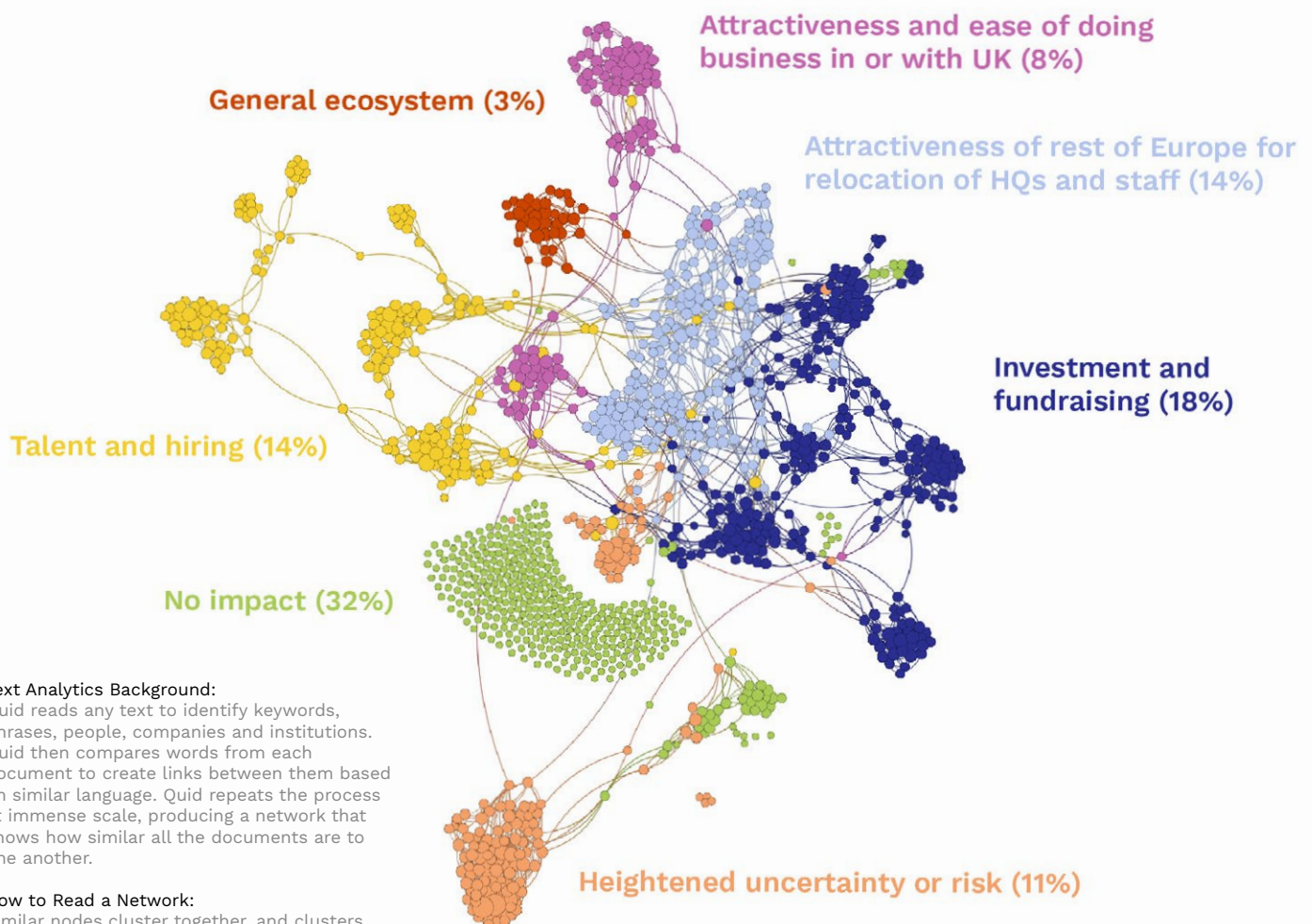
More than any other event, the
Brexit process is singled out for
its impact on the European tech
ecosystem

52%

of survey respondents cited the
triggering of Article 50 as the
most material event to have
impacted the European tech
industry in the past 12 months

Europe's tech community is
feeling the impact of Brexit in
different ways

How, if at all, has the UK triggering Article 50 to start the Brexit
process impacted your company?



Text Analytics Background:

Quid reads any text to identify keywords, phrases, people, companies and institutions. Quid then compares words from each document to create links between them based on similar language. Quid repeats the process at immense scale, producing a network that shows how similar all the documents are to one another.

How to Read a Network:

Similar nodes cluster together, and clusters are grouped by color. Each node represents a written response. Connections represent similar language used across nodes. Centrally located nodes are core concepts in the network and share language with many other nodes, while peripheral clusters represent more outsider takes on the topic. The density of a cluster indicates how similar or diverse the nodes are within it.

Note: Respondents that selected 'the UK triggering Article 50 to start the process of exiting the EU' only

Source: Quid, The State of European Tech Survey 2017

Europe's tech ecosystem is feeling the impact
- positive and negative - of macro events

The ongoing uncertainty caused by the Brexit vote and exit process is impacting hiring, fundraising and office location decisions

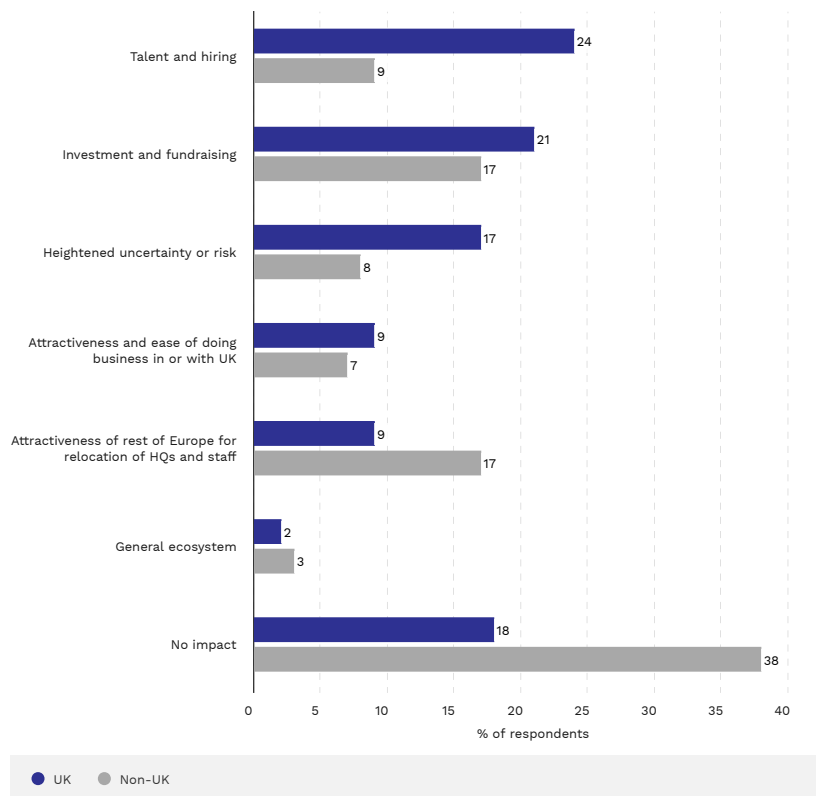


Note:
Respondents that selected 'UK triggering Article 50 to start the process of exiting the EU' only. Numbers may not add to 100 due to rounding

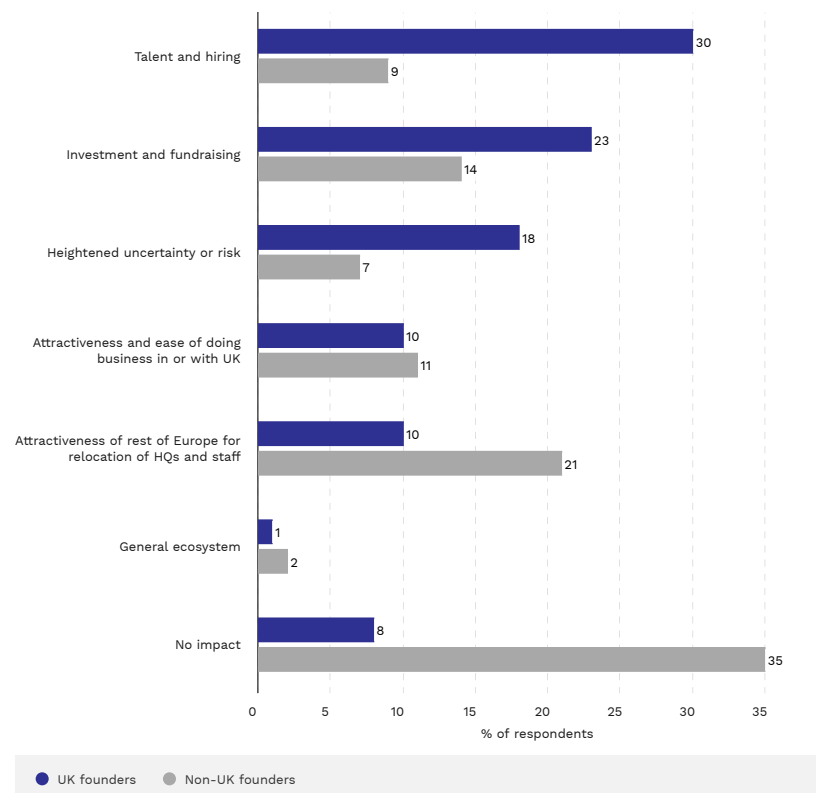
Source:
Dealroom.co Quid, The State of European Tech Survey 2017

How, if at all, has the UK triggering Article 50 impacted your company?

Geography



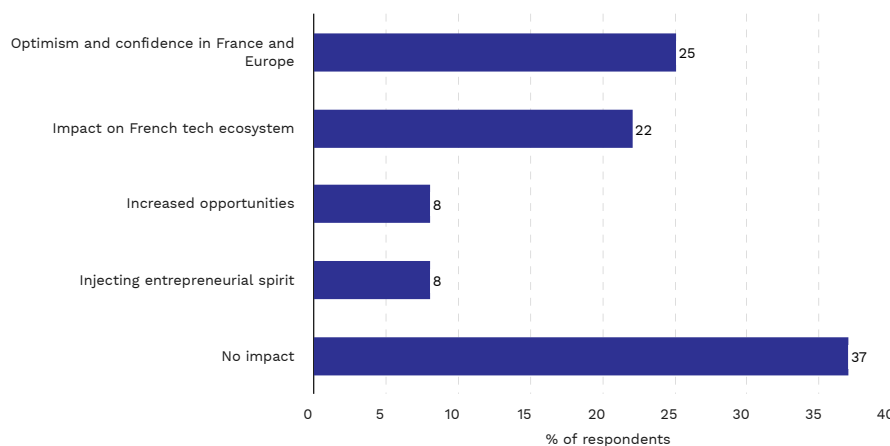
Founders



Europe's tech ecosystem is feeling the impact
- positive and negative - of macro events

Meanwhile, in France, Macron's electoral victory has injected huge optimism into the French ecosystem, creating a renewed sense of entrepreneurial spirit

How, if at all, has the election of Emmanuel Macron impacted your company?



● % of respondents choosing 'Election of Macron'

Note: Respondents that selected 'the election of Emmanuel Macron' only

Source: Quid, The State of European Tech Survey 2017



“

There was a lot of self-bashing in France, lots of people saying that “it is much better in the West - especially in the tech ecosystem, it is much better in Silicon Valley, it is better in London, and so on.” We were kind of self-hating on ourselves. I thought it was a generation thing, and it would take a long time to make that shift. But that happened overnight with Macron being elected. The day after he got elected there was no-one complaining in France, there was a new burst of positivity in the country.

Romain Lavault
Partech Ventures

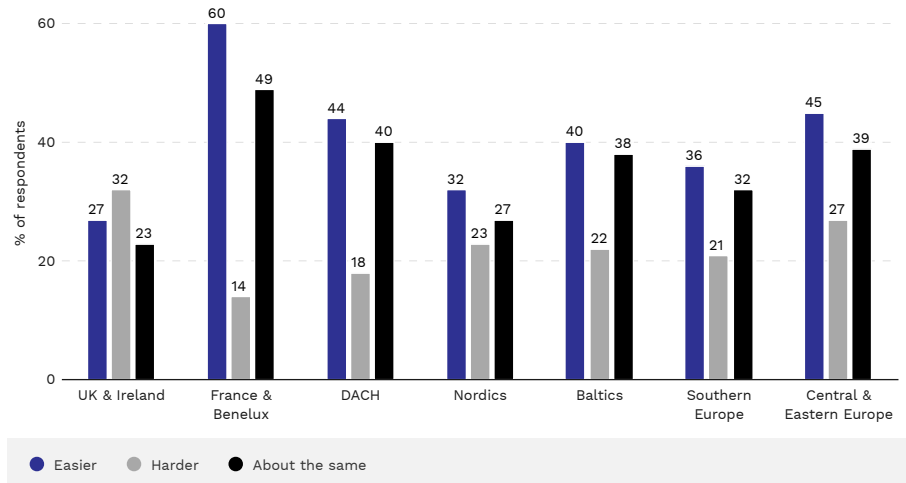
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Europe's tech ecosystem is feeling the impact
- positive and negative - of macro events

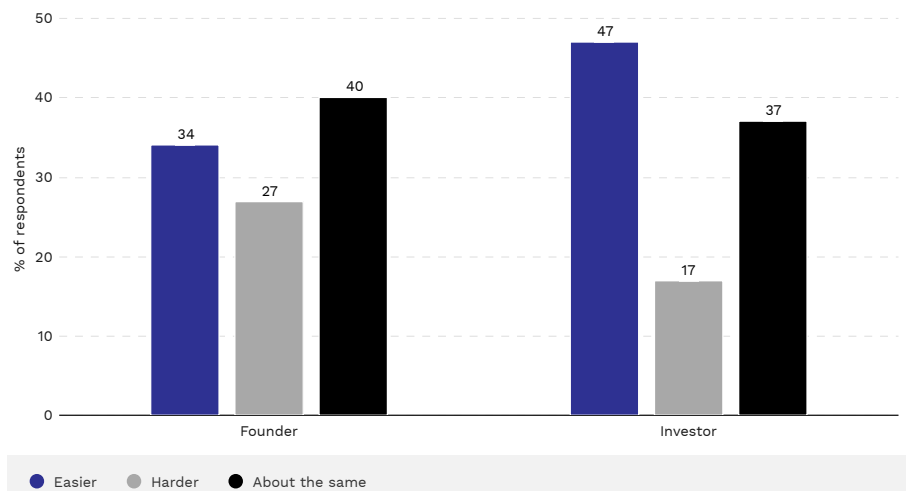
These events have had a significant impact on the perception of founders and investors. The UK is the only country in Europe where more founders think it's got harder to raise capital compared to 12 months ago

In your opinion, is it easier or harder to raise venture capital in Europe than it was 12 months ago?

Geography



Occupation



Note: This question was answered by Founders and Investors only. Numbers may not add to 100 due to rounding

Source: The State of European Tech Survey 2017

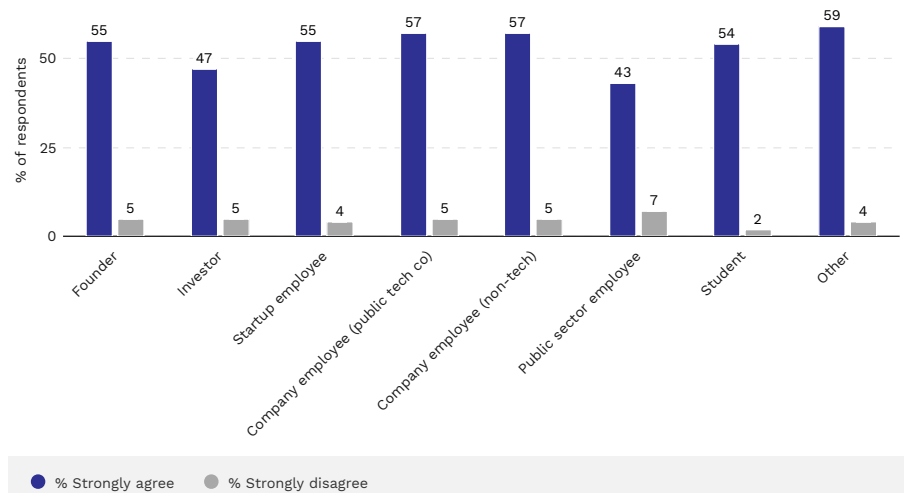
2.4

Europe is entering a new age of entrepreneurship where technology is used to address the world's biggest societal challenges

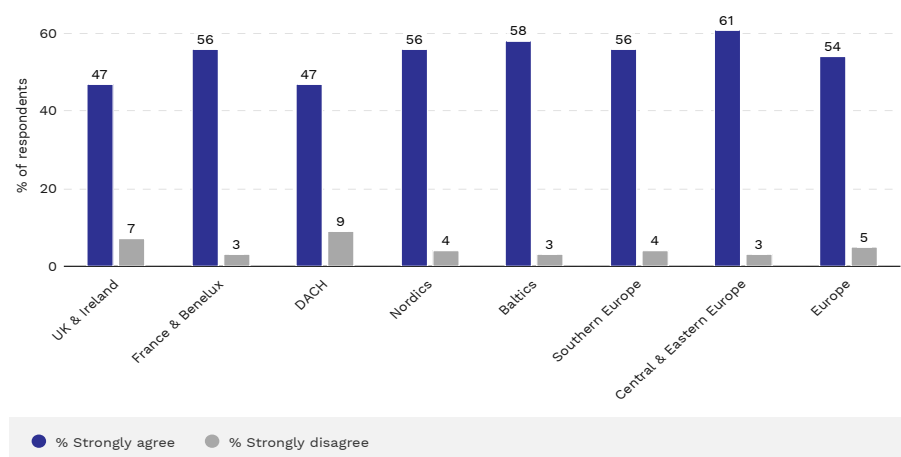
There is strong agreement across Europe that the region's technology entrepreneurs will play a critical role in helping to tackle major societal issues, such as climate change, food sustainability and access to healthcare

European technology entrepreneurs will do more to address societal challenges in the next decade than European governments

Occupation



Geography



Note: 'Strongly agree' is composed of respondents answering 6 or 7 on a 7-point Likert scale. Strongly disagree is composed of founders answering 1 or 2 on the same scale

Source: The State of European Tech Survey 2017

Europe is entering a new age of entrepreneurship where technology is used to address the world's biggest societal challenges



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Today's generation are looking for a higher purpose: something more than simply earning their living - I think this generation will play a much bigger role over the next decade, as they've grown up in a world where entrepreneurship is extremely powerful and when directed in the right way it can solve big and complex problems.

Daniel Wiegand
Lilium Aviaton

”

Europe believes that its tech entrepreneurs will play an important role in tackling issues such as climate change, food sustainability and access to healthcare

55%

of respondents strongly agree that European entrepreneurs will have a bigger impact on solving major global issues than European governments



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To tackle the big issues in societies - social mobility, mental health, lifelong learning, the problems of ageing, and so on - entrepreneurs need to ignore the silos in which current solutions operate. The reality is that more money is being injected into the current systems, but the problems just keep growing. New solutions need to empower individuals to sort these issues out for themselves. Why keep waiting for others to sort it out for us? Europe has 500m consumers who will buy solutions to these issues if tech entrepreneurs can create attractive and effective products, rather than relying on existing systems to do that.

Ella Goldner
Zinc VC

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Increasingly, citizens turn to science and technology to obtain an answer for mitigating climate change, improving citizens' health or enhancing energy and resource efficiency. This is something that Finnish, Nordic and European companies are among the best in the world at. One example of that is the rising trend of biohacking where close monitoring of yourself through tech leads to changes in your living habits. Done right, this may be a good road to healthier and longer working life and thereafter healthier ageing, and thus create a meaningful impact.

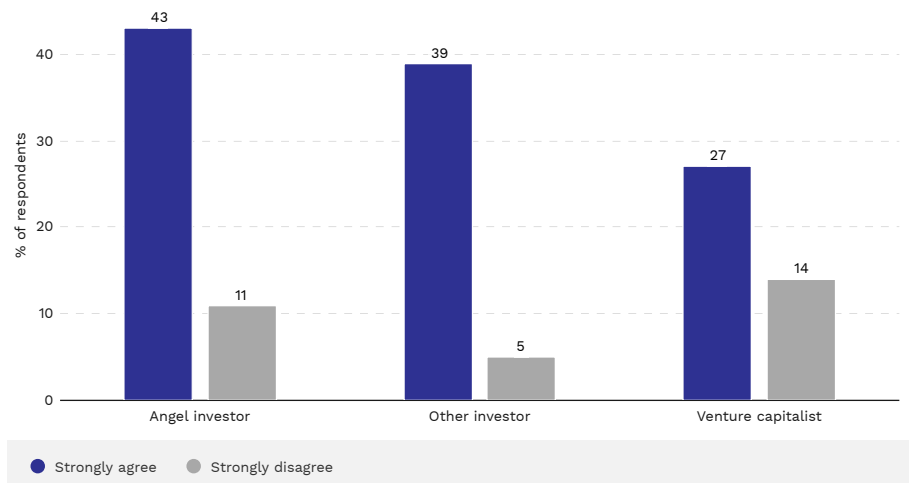
Kati Levoranta
Rovio

”

Europe is entering a new age of entrepreneurship where technology is used to address the world's biggest societal challenges

The potential social and ethical impact of investments is playing an increasingly significant role in the decisions made by angel investors and VCs

The likely social and ethical impact of a company plays a significant role in my decision to invest



Note: Strongly agree is composed of respondents answering 6 or 7 on a 7-point Likert scale. Strongly disagree is composed of founders answering 1 or 2 on the same scale

Source: The State of European Tech Survey 2017



“

I think we in Europe are very well-suited to producing the founders that are going to solve some of the biggest challenges. This is thanks to more and more investors who are willing to back some super ambitious teams and plans, but we are also starting to see more entrepreneurs who are willing to move into that space, inspired by the example set by other European entrepreneurs.

Andreas Saari
Wave Ventures

”

Europe's angel investors demonstrate a strong social and ethical consciousness

43%

of European angel investors strongly agree that the potential social and ethical impact of their investments plays a significant role in their decision to invest

Europe is entering a new age of entrepreneurship where technology is used to address the world's biggest societal challenges



“The only limit to the impact we can have is our own imagination and commitment. At Norrskén, we’re aiming to enable impact unicorns, companies positively influencing more than one billion people. We are already seeing incredible solutions being developed in Europe, and the beauty of technology is that if they are successful they can scale globally, quickly.”

Erik Engellau-Nilsson
Norrskén Foundation

”

It’s not surprising then that European entrepreneurs that are taking on the world’s biggest problems are now raising from the region’s leading VCs

Selected European tech companies with a strong focus on solving a major global societal challenge

Company	Location	Problem	Selected investors
Agricoool	Paris	Food sustainability	Daphni
Babylon	London	Healthcare access	Kinnevik, Hoxton Ventures
E-Peas	Brussels	Energy	Partech Ventures
Farmdrop	London	Food sustainability	Atomico
HomeTree	London	Energy	DN Capital, Localglobe
Infarm	Berlin	Food sustainability	LocalGlobe, Cherry Ventures
Karma	Stockholm	Food sustainability	Norrskén, eVentures
Kry	Stockholm	Healthcare access	Accel, Index, Creandum, Project A
Lilium	Munich	Transport	Atomico, Tencent, Freigeist
Nayva	Paris	Transport	360 Capital Partners
Olio	London	Food sustainability	Accel
Origami Energy	Cambridge	Energy	Octopus Ventures
Seabubbles	Paris	Transport	Partech Ventures
Sophia Genetics	Lausanne	Disease diagnostics	Balderton, Invoke, 360 Capital Partners
Wefarm	London	Food sustainability	LocalGlobe

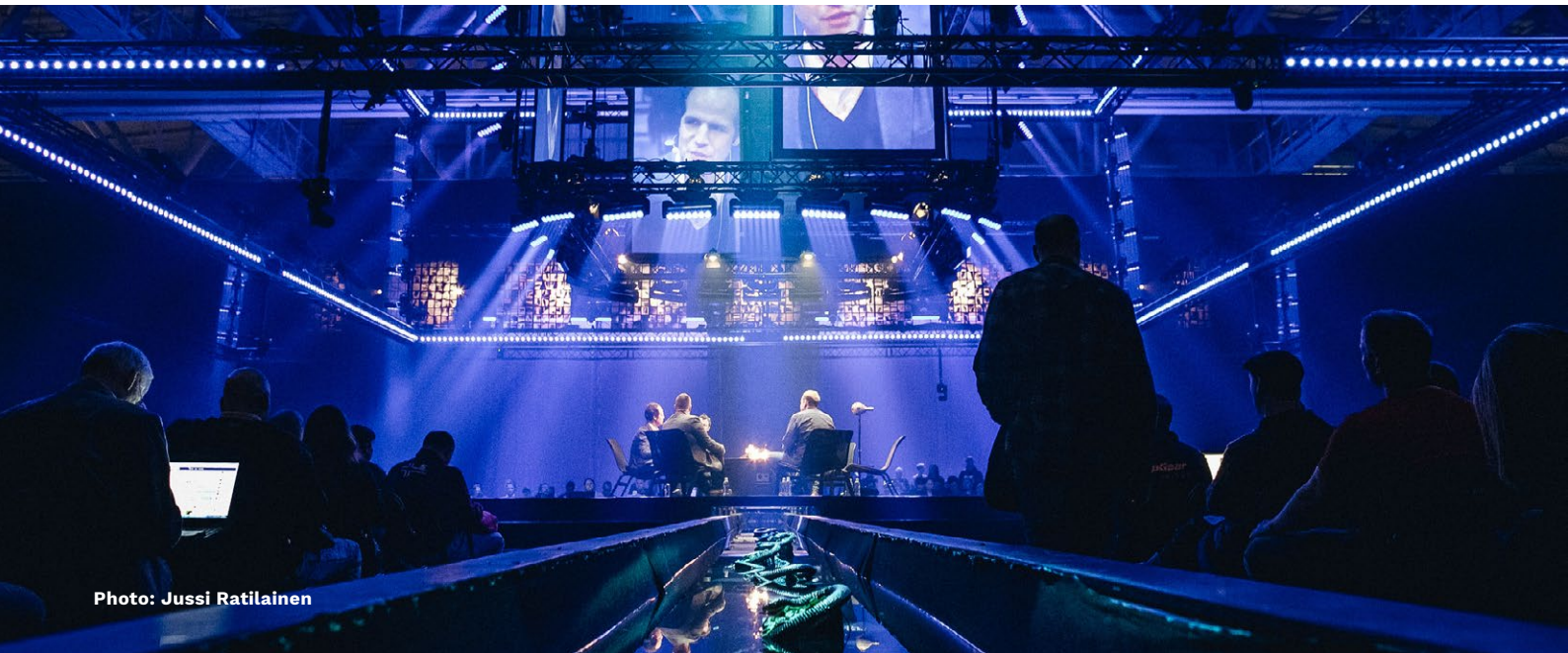


Photo: Jussi Ratilainen

2.5

European tech continues to diversify geographically, driving cross-border investment activity

For the past two years, European VCs have made around 1,000 investments per year in countries outside their home market

There is a huge level of cross-border investment activity by European VCs

33%

of investments made by European VCs are into companies based in countries outside of the VC's domestic market

“

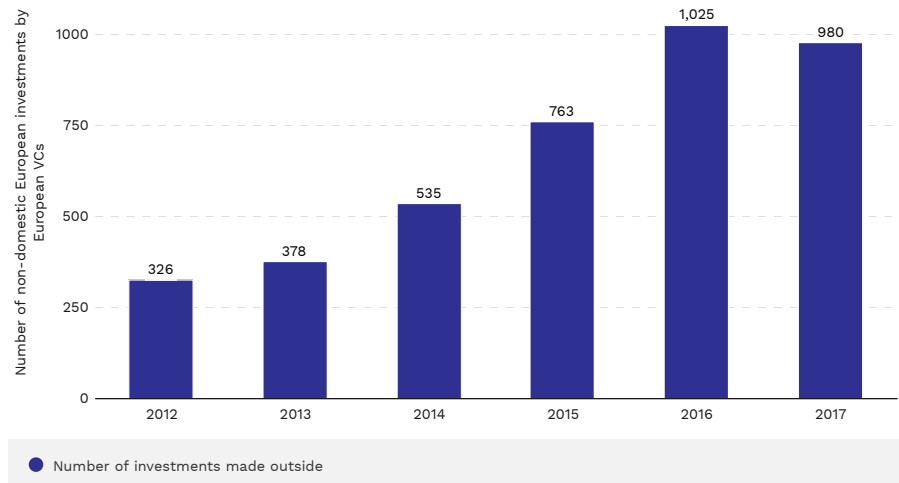
We continue to see smaller ecosystems develop across Europe but there is certainly a long way to go -- which presents us with great untapped opportunity. While countries like Spain are on fire with multiple new startups, nice exits and ambitious teams, its neighbour Portugal is still coming up the curve and Italy, despite its \$1.85T GDP, has not yet been able to generate a venture ecosystem commensurate to its potential. It is encouraging that more funds are willing to invest further from home so that founders in less well known tech scenes, who might have been overlooked a few years ago, can now access best-in-class expertise and the global capital necessary to scale.

Carolina Brochado
Atomico

”

This is unsurprising, as European VCs are increasingly seeing attractive opportunities outside their traditional footprint

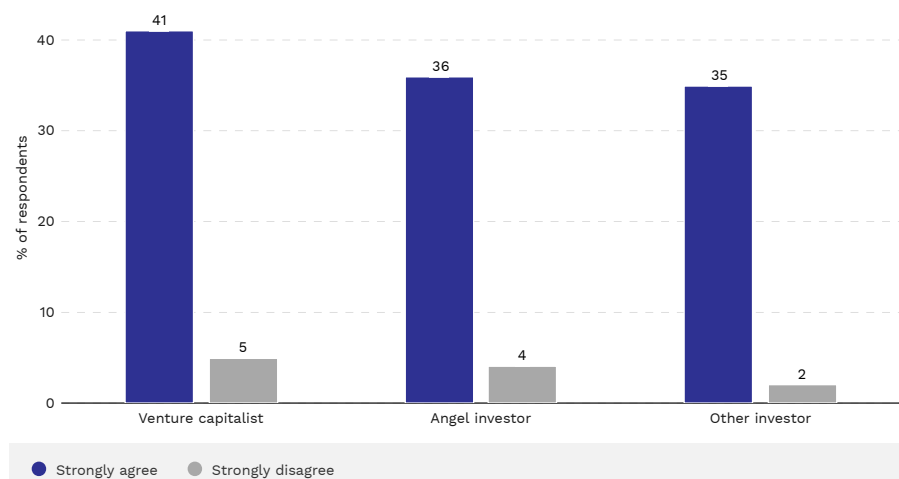
Number of non-domestic European investments by European VCs



Note: Non-domestic investments refer to investments made by VCs in European countries other than their domestic (home) market. 2017 based on 9M to September 2017 and projection for Q4 based on Q3

Source: Dealroom.co

As an investor, high-quality investment opportunities are increasingly opening up in European areas outside of our typical geographic focus



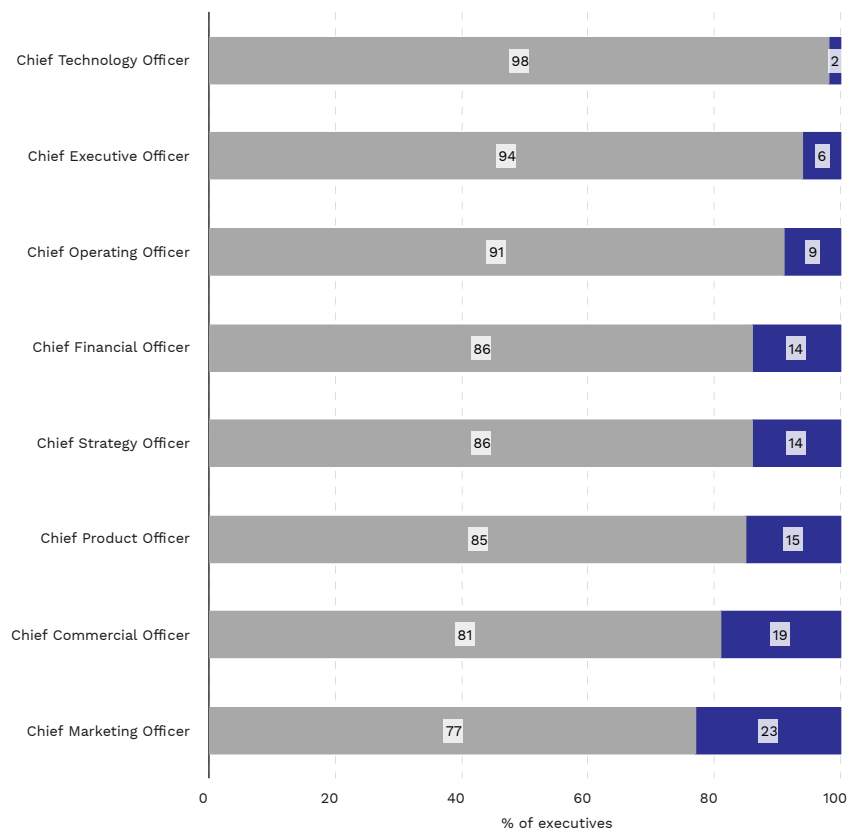
Note: Investor respondents only. Strongly agree is composed of respondents answering 6 or 7 on a 7-point Likert scale. Strongly disagree is composed of founders answering 1 or 2 on the same scale

Source: The State of European Tech Survey 2017

The perception and the reality around gender diversity in European tech are not aligned

The gender diversity reality is that women make up just 9% of CxO positions at venture-backed European startups, including just 2% of CTOs and only 6% of CEOs

Gender composition by job title for Executive-level positions of selected European Series A and B venture-backed companies



Note:

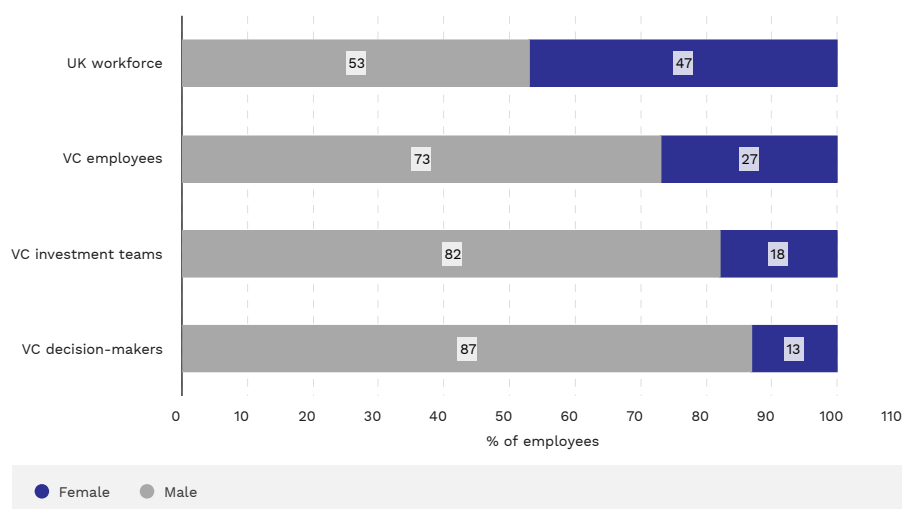
Based on a sample of 1,400 executives in CxO positions at 500+ European VC-backed tech companies that have raised a Series A or B round between 1 January 2016 and 30 September 2017 and have raised >\$5M in total.

Source:

Craft.co

This huge underrepresentation of women is also evident in the European venture capital industry, where just 13% of decision-makers are women

Gender composition of UK venture capital industry



Note:

Based on a sample of 1,400 executives in CxO positions at 500+ European VC-backed tech companies that have raised a Series A or B round between 1 January 2016 and 30 September 2017 and have raised >\$5M in total.

Source:

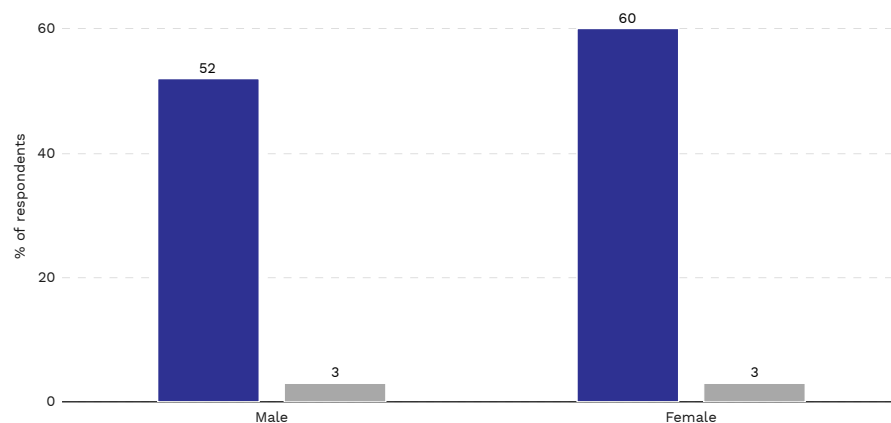
Diversity VC

The perception and the reality around gender diversity in European tech are aligned

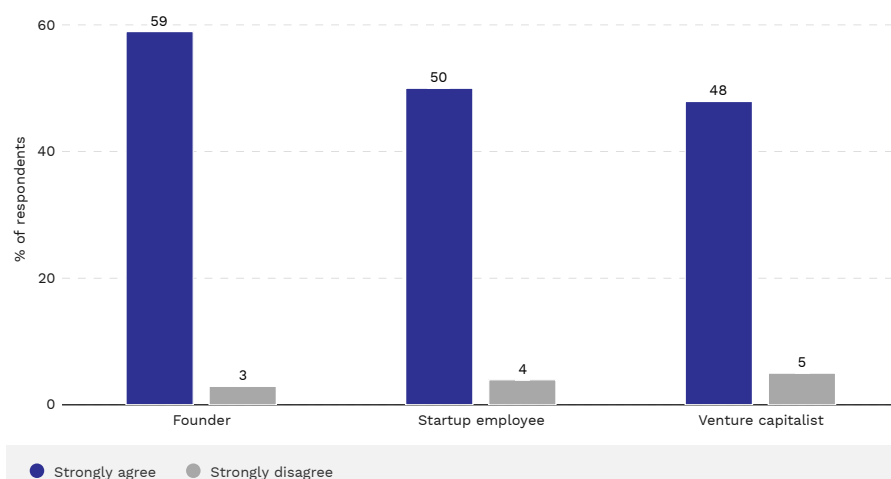
But the tech community's perception tells a different story. The overwhelming majority strongly agree that gender diversity is positively reflected in employee composition

Gender diversity is positively reflected in my company's employee composition and hiring

Gender



Diversity



Source: The State of European Tech Survey 2017



“If I look at diversity from an Estonian perspective, we still have a long way to go. We still don't have enough girls going to STEM fields, they do not go to learn programming because there are still these stereotypes as if ICT were only for guys with long hair in ponytails. These stereotypes are still very strong. In that sense, the US is so much bigger than us and are a bit ahead in that they can hire very specific people into their companies who are responsible for building a diverse culture and setting up company diversity policies. This is not something we have adopted yet or at least I have not seen it happening as much.”

Kristel Kruustük
Testlio

”

03 TALENT

**Every founder will tell you that talent is the
lifeblood of their company and their sector
as a whole**

Technology is no different.

The key questions are how strong is the tech talent pipeline in
Europe, how concentrated is it and how competitive is it getting?

3.1

Europe's tech ecosystem is fed by a strong pipeline of world-class talent

Europe is home to half of the top 10 computer science institutions in the world

Europe is a leading source of doctoral-level technical talent

2x

more PhDs in STEM subjects graduate from European universities than from those in the US

Global ranking of top-rated European computer science institutions

Global Rank	University	City
3	University of Oxford	Oxford
4	ETH	Zurich
5	University of Cambridge	Cambridge
9	Imperial College London	London
10	EPF	Lausanne
14	University of Edinburgh	Edinburgh
16	TU Munich	Munich
18	UCL	London
36	Karlsruhe Institute of Technology	Karlsruhe
37	RWTH Aachen	Aachen

Source: Times Higher Education World University Rankings for Computer Science 2017-2018.co

“

Europe is an amazing place to be a founder. There are so many incredible academic institutions across the continent with such a wealth of talent pouring out of them and producing amazing engineers; incredible market to go and build within. Europe is just a great place to build a team.

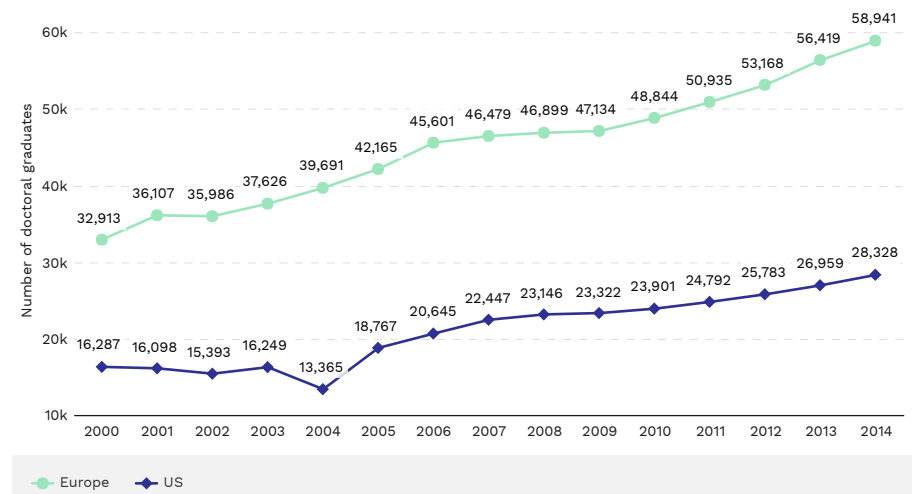
Herman Narula
Improbable

”



The pipeline of advanced research graduates in STEM fields has been growing consistently since 2000

Number of doctoral graduates in STEM fields per year by region



Source: OECD

Europe's tech ecosystem is fed by a strong pipeline of world-class talent

European technical talent is complemented by a hungry pool of commercial-minded talent

1 in 5

graduates of MBA programmes from Europe's leading business schools are entering the tech industry

“

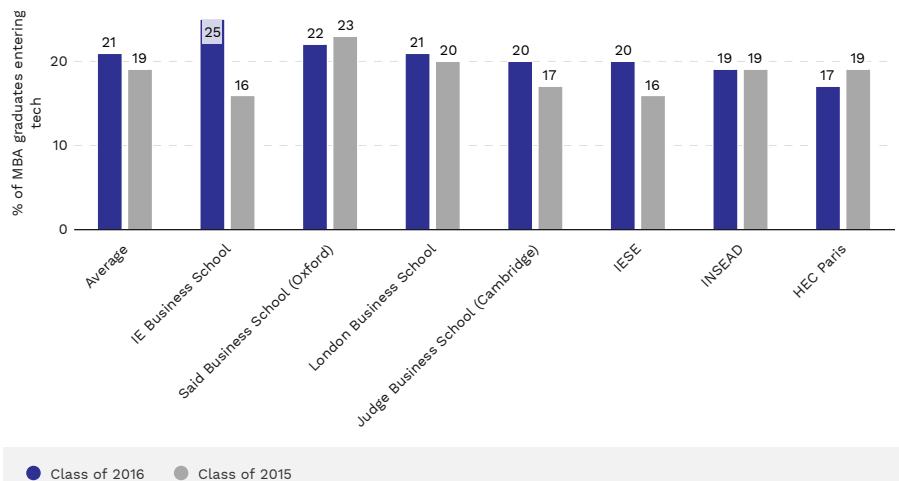
I think the job that European policymakers have in relation to fostering entrepreneurship is primarily in building the ambition and doing so by focusing education in the STEM subjects - we have great universities, we need to encourage more of our graduates to study science, technology, engineering and maths, particularly female ones, where we have a big opportunity to increase the quality and breadth of the pool of available talent.

Robin Klein
LocalGlobe

”

Graduates from Europe's leading MBA programmes continue to join the tech industry at scale

% of MBA graduates entering tech industry from selected leading European business schools



Source: Business School MBA Graduate Employment Reports



“

While Europe has always had strong technical talent from world-class universities in cities like Munich, Paris and Stockholm, we're now seeing entrepreneurs with an innovation mindset and commercial DNA as well.

Luciana Lixandru
Accel

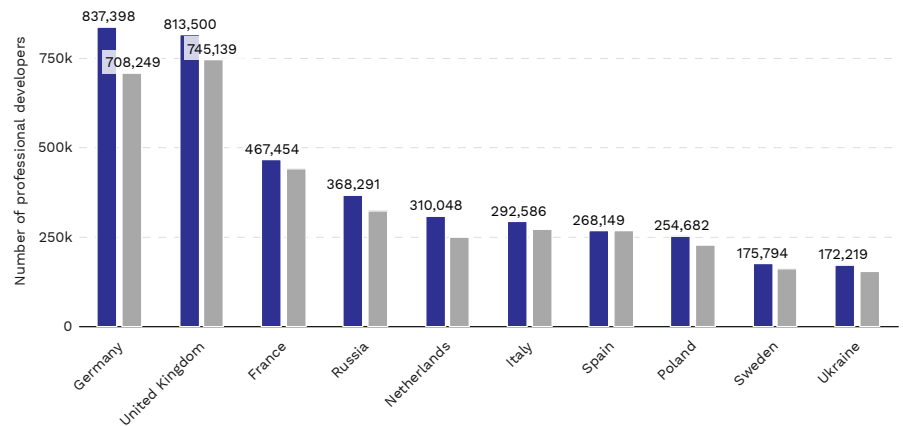
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Europe's tech workforce and developer population is booming

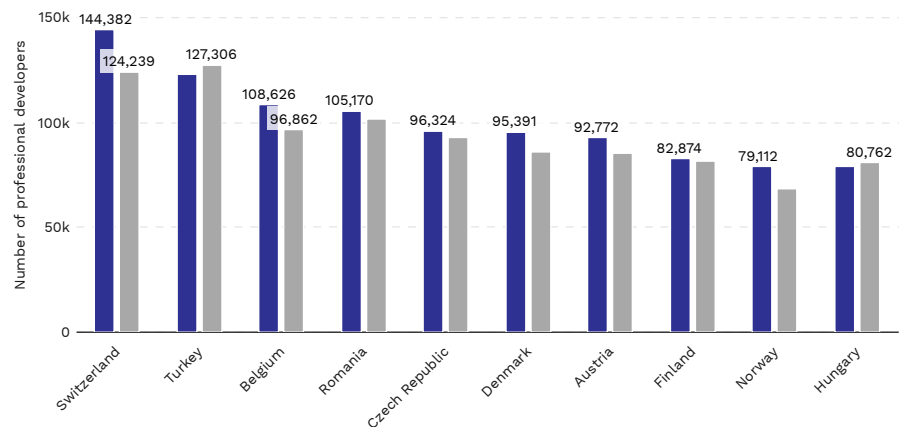
There has been rapid growth in the size of the professional developer populations in most European countries

Number of professional developers by country

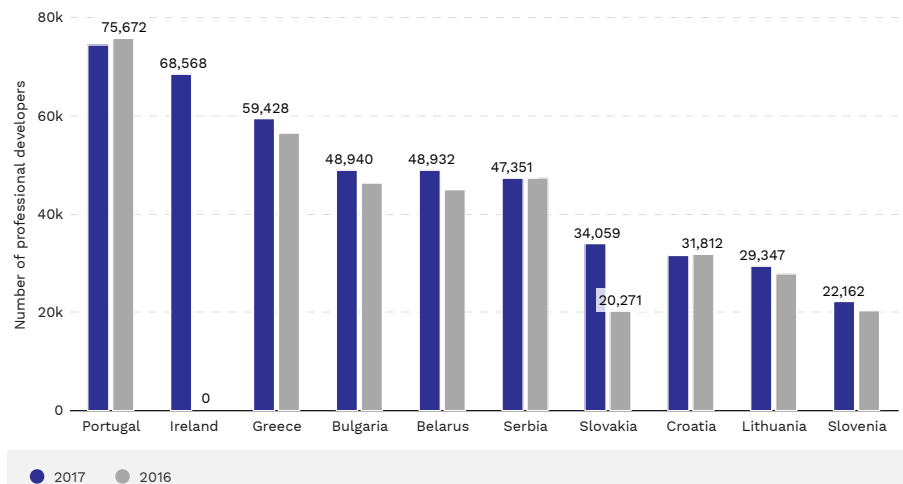
Top 10



11-20



21-30



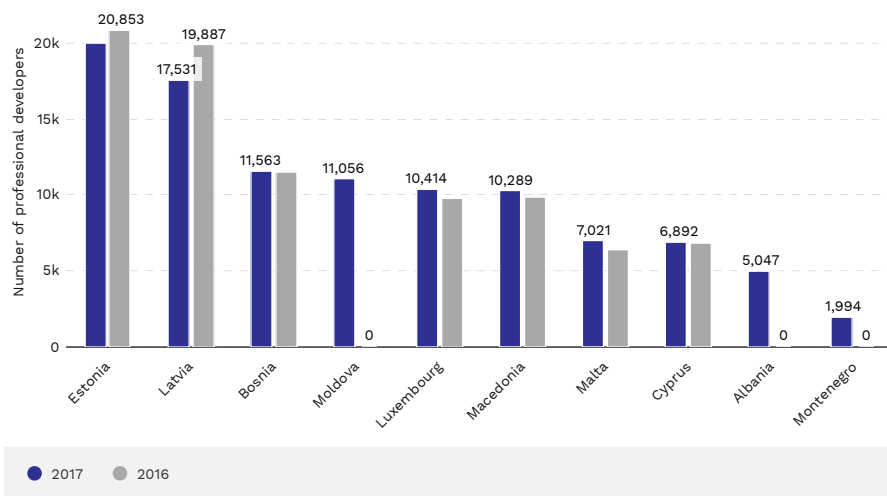
Note: Where data for 2016 was not available, this is shown as blank

Source: Stack Overflow

Europe's tech workforce and developer population is booming

Number of professional developers by country

31-40



Note: Where data for 2016 was not available, this is shown as blank

Source: Stack Overflow

Europe's developer pool is large and growing

5.5M

professional developers in Europe, compared to 4.4M in the US, according to Stack Overflow

“

European tech is going forward super fast. It is still maybe following the situation in Silicon Valley but I think that this is shifting. Shifting especially because there is so much talent in Europe that wants to stay or wants to come back from wherever they are. For example, we have a lot of really good engineers from Slovenia and Croatia going to work for Facebook or Google for a couple of years in the States but they would wish to come back, they would like to be back in Europe.

Urska Srsen
BellaBeat

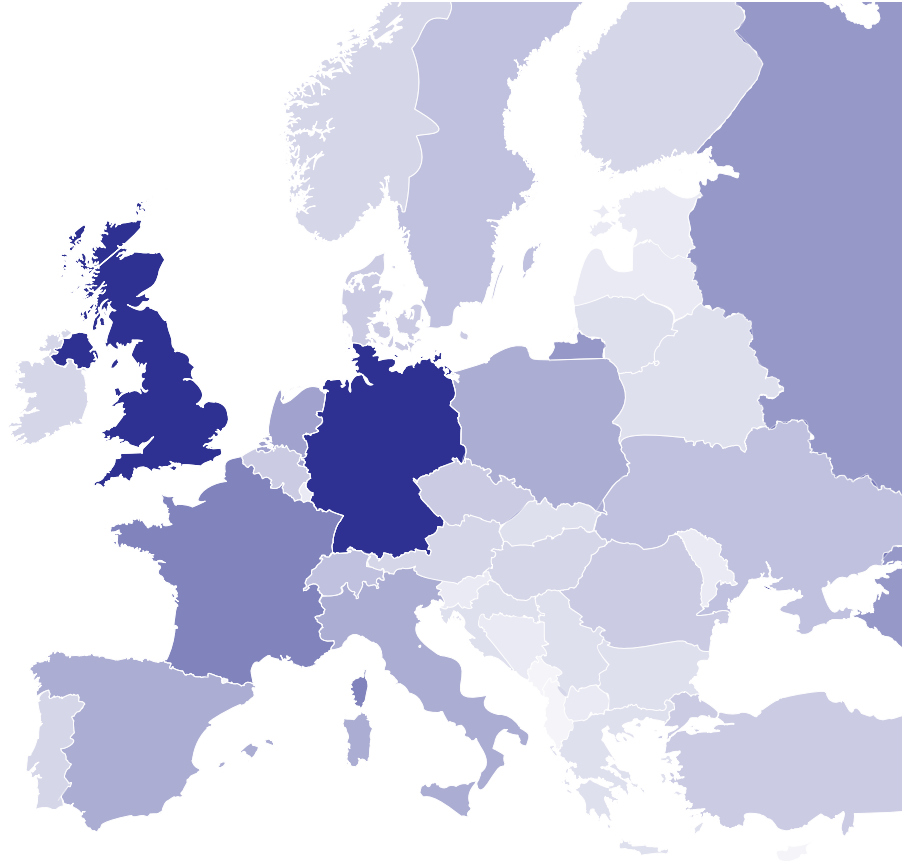
”

Europe's tech workforce and developer population is booming

Germany has overtaken the UK as the largest country for professional developers in Europe

Number of professional developers by country

01	Germany	837,398
02	United Kingdom	813,500
03	France	467,454
04	Russia	368,291
05	Netherlands	310,048
06	Italy	292,586
07	Spain	268,149
08	Poland	254,682
09	Sweden	175,794
10	Ukraine	172,219
11	Switzerland	144,382
12	Turkey	123,206
13	Belgium	108,626
14	Romania	105,170
15	Czech Republic	96,324
16	Denmark	95,391
17	Austria	92,772
18	Finland	82,874
19	Norway	79,112
20	Hungary	79,075



Source:
Stack Overflow



“

It is unsurprising that the developer population of Europe is increasing: software is eating the world. Developers are needed in every type of business, from AI to insurance. And as demand for talent continuous to outstrip supply, we are seeing a greater drive from both the public and private sector to enable more people to enter or extend their career in technology. Junior developers are now more likely to have been exposed to coding within their formal education, and we're seeing a surge in demand for non-formal education amongst the wider developer population.

Sean Bave
Stack Overflow

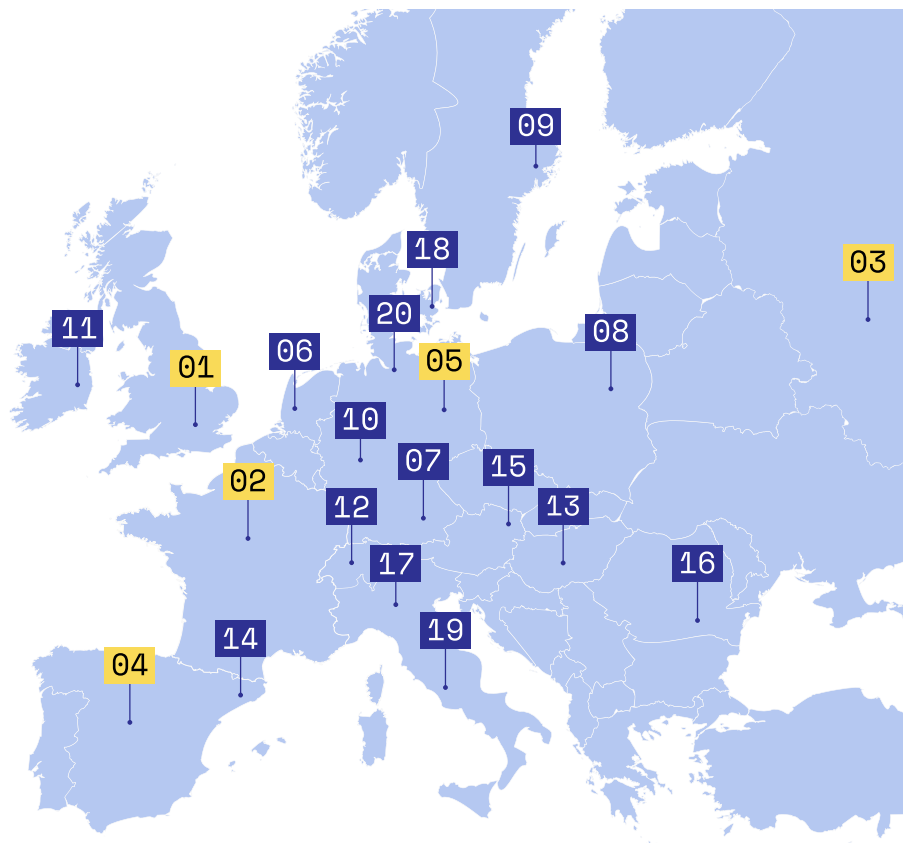
”

Europe's tech workforce and developer population is booming

London is the top European hub for professional developers, followed by Paris, Moscow, Madrid and Berlin

Top 20 cities by number of professional developers

01	London	303,594
02	Paris	181,659
03	Moscow	144,488
04	Madrid	104,102
05	Berlin	93,517
06	Amsterdam	90,058
07	Munich	82,877
08	Warsaw	77,318
09	Stockholm	62,594
10	Frankfurt	62,004
11	Dublin	61,260
12	Zurich	60,046
13	Budapest	57,944
14	Barcelona	57,607
15	Vienna	56,776
16	Bucharest	53,758
17	Milan	52,004
18	Copenhagen	51,420
19	Rome	47,051
20	Hamburg	46,582



“

France has incredible engineering talent and a unique set of values and aesthetics making its talent and environment uniquely attractive in an international context. Still, there are challenges in hiring and firing, financing, and other ways startups fit into the overall business ecosystem that need to be fixed before can the current startup excitement be a trend and not a fad.

Ian Rogers
LVMH

”

3.3

The presence of tech giants in Europe is changing the dynamics of the region's talent pool

In last year's report, we highlighted 53 acquisitions made since 2011 by the top 5 largest US tech companies. Since then, they've made 10 further acquisitions in Europe

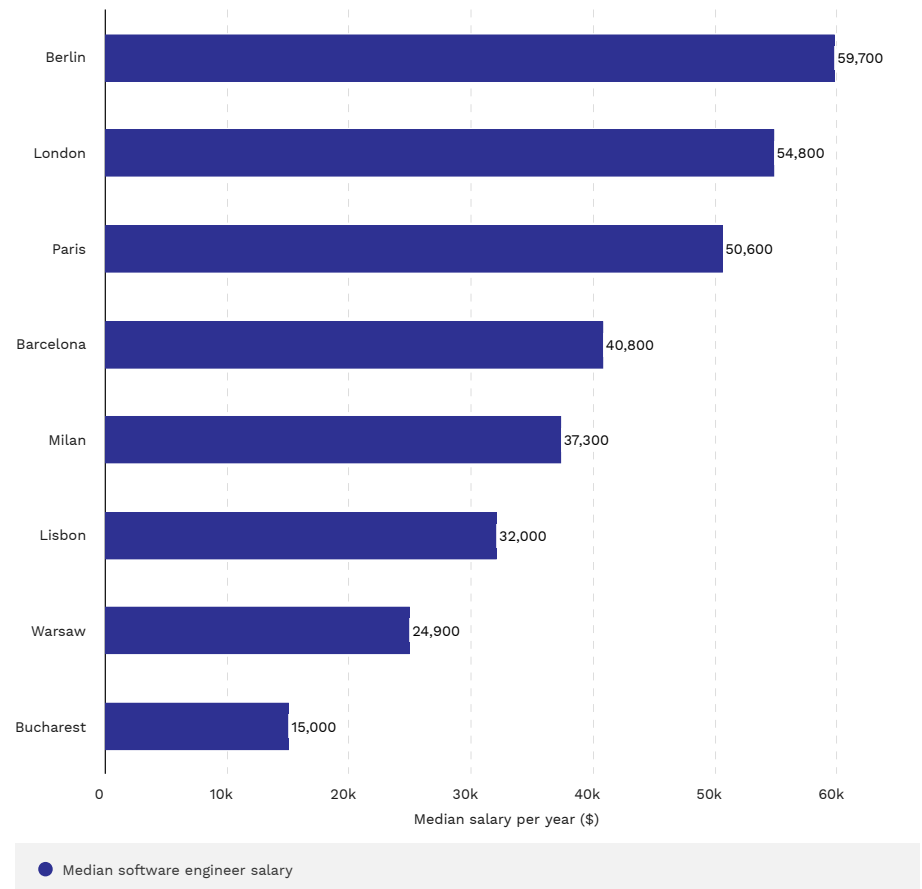
Acquisitions of European deep tech companies by US tech giants since December 2016

Target	Location	Acquiror	Date announced	Total funding prior to exit
Regaind	France	Apple	Sep 2017	\$0.5M
AlMatter	Belarus	Alphabet	Aug 2017	Undisclosed
Fayteq	Germany	Facebook	Aug 2017	Undisclosed
GameSparks	Ireland	Amazon	Jul 2017	Undisclosed
SensoMotoric Instruments	Germany	Apple	Jun 2017	Undisclosed
Beddit	Finland	Apple	May 2017	\$4.0M
Open Build Service	Germany	Microsoft	Apr 2017	Undisclosed
Donya Labs	Sweden	Microsoft	Jan 2017	\$1.5M
Limes Audio	Sweden	Alphabet	Jan 2017	\$4.6M
indoor.io	Finland	Apple	Dec 2016	Undisclosed

Source: Dealroom.co

We also highlighted how large global tech companies are expanding their presence in Europe through large - and fast-growing - engineering centres to tap into the local talent pools. This is having an inflationary effect on salary levels

Median software engineer salary (\$ per year) in selection European cities



Note: Data captured from Glassdoor in November 2017

Source: Glassdoor

European tech continues to diversify geographically, driving cross-border investment activity



“

There's a lot more competition for talent both from established tech giants and new companies starting up across Europe. European startups need to treat finding, growing and keeping talent just like they would customer acquisition or product development: have it as a key metric on the management dashboard and see it not just headcount but pipeline, attrition, development programmes and succession planning. It's up to leaders to ensure their teams are diverse and there are enough highly capable managers to keep them engaged. Digital talent, particularly the top people, has an ever growing number of options in Europe and choose where and who they want to work for. If founders do not prioritise this from the outset, talent will go elsewhere.

Dan Hynes
Atomico

”

The expansion of global tech giants in European tech hubs is forcing local entrepreneurs to up their game in how they attract and retain talent

1.5x

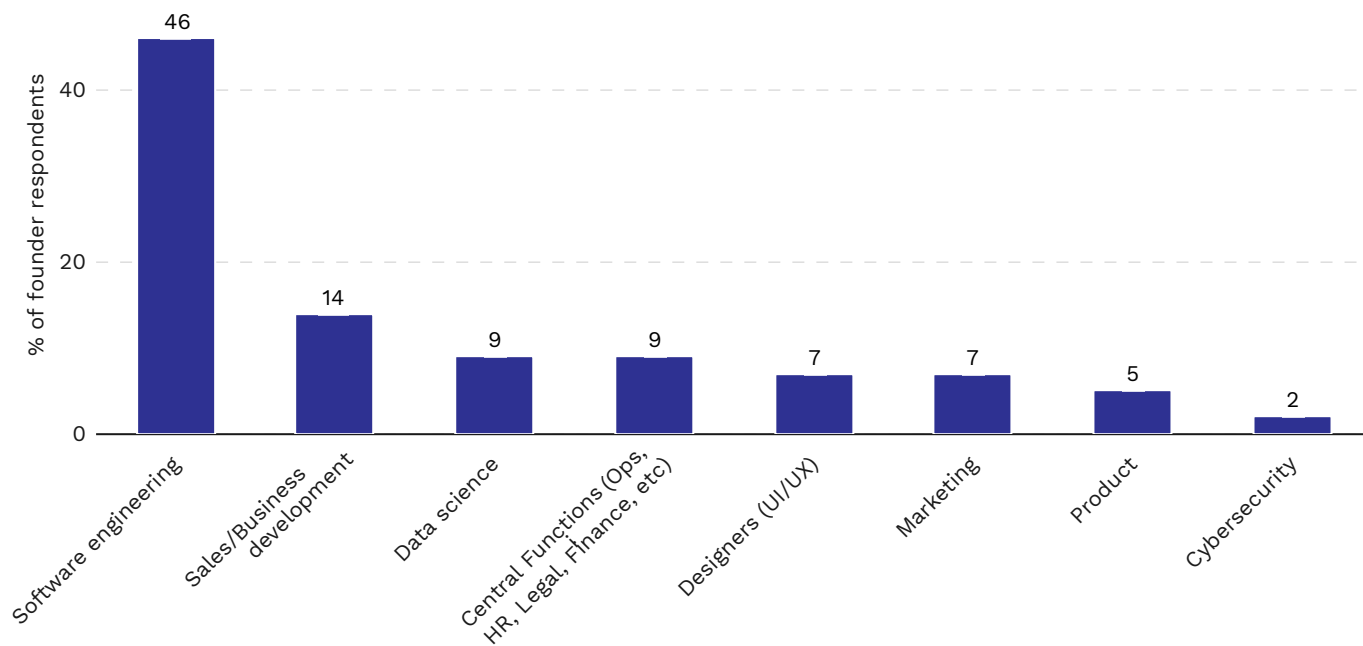
higher average salaries are offered by Facebook (\$87k) or Google (\$83k) to software engineers compared to the market average in London (\$55K), according to Glassdoor

European tech continues to diversify geographically, driving cross-border investment activity

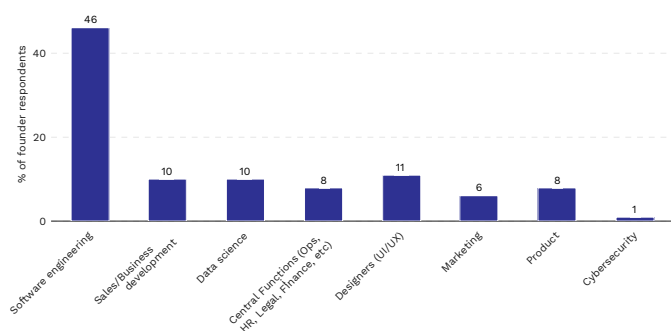
The huge gap between software engineer salaries will see founders adopt different strategies to attract and retain talent, including setting up satellite offices to tap engineering pools in additional cities to their HQ. Unsurprisingly, founders report that finding software engineering talent is their biggest hiring challenge. It's also noteworthy that the rise of AI is driving an increasing battle for data science talent.

In which one area does your company have the most difficulty recruiting talent?

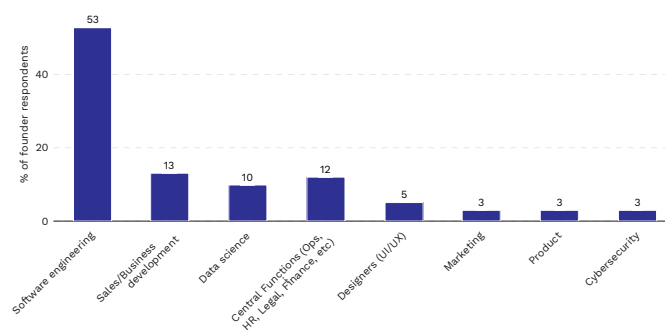
Europe



UK & Ireland



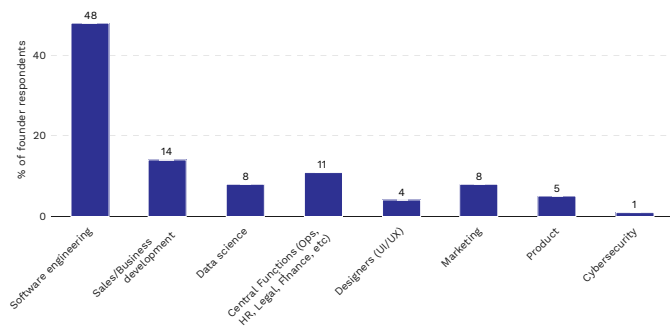
France & Benelux



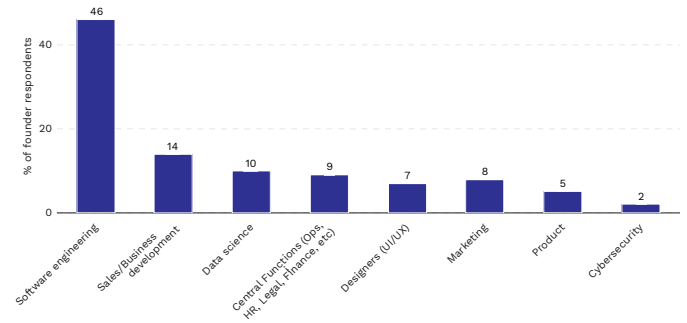
European tech continues to diversify geographically, driving cross-border investment activity

In which one area does your company have the most difficulty recruiting talent?

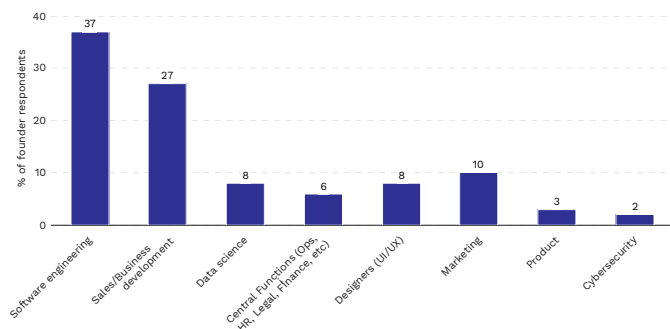
Southern Europe



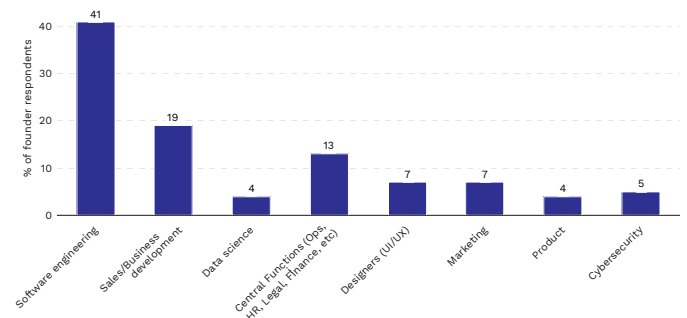
Nordics



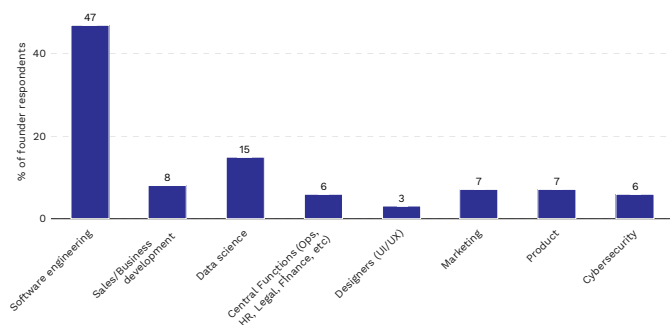
Baltics



Central & Eastern Europe



DACH



Source: The State of European Tech Survey 2017

“

There's never been a better time to be a European angel investor. We're now witnessing a whole new generation of companies being born from alumni of previous European scale-ups and other tech giants based in the region. With the advantage of having been through the pain, failures and successes of building a company before, Europe has never had such an exciting crop of early-stage startups

Neil Murray
The Nordic Web

”

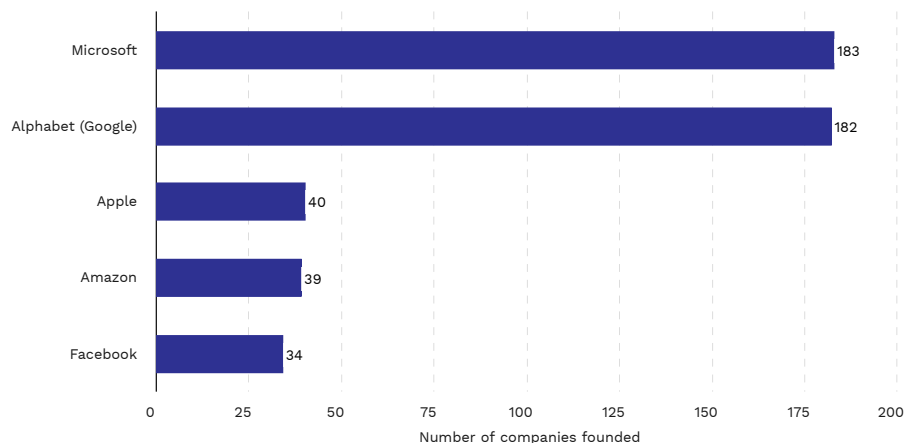


European tech continues to diversify geographically, driving cross-border investment activity

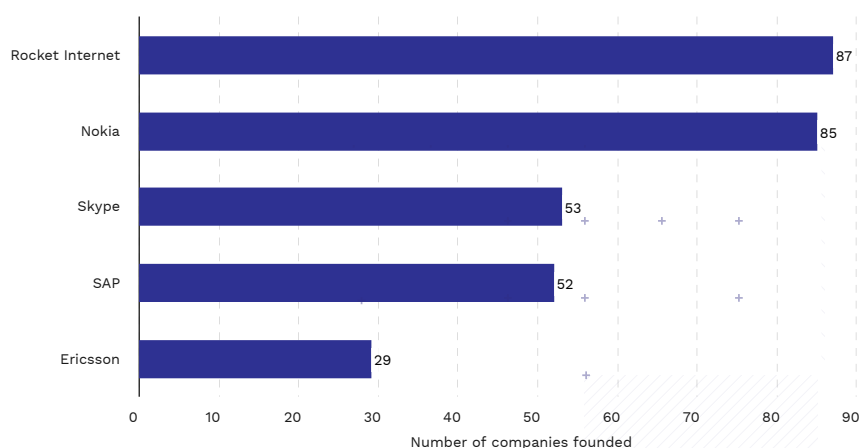
But while the presence of big tech companies forces founders to up their game on the talent side, it's clear that the presence of these tech giants has a hugely positive effect. Their alumni are prolific at founding companies in the region.

Number of European companies founded by alumni of major tech companies

Alumni of selected US tech companies



Alumni of selected European tech companies



Note: Since the underlying dataset is not comprehensive this is intended to be a representative view of the relative importance of the alumni networks of the respective companies

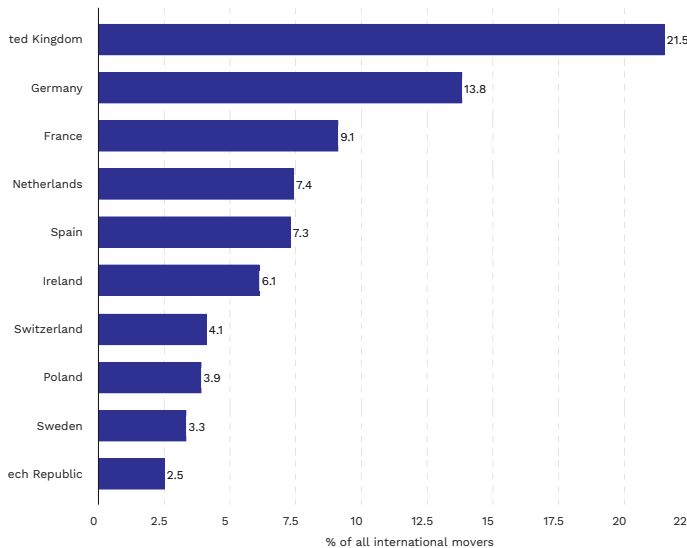
Source: Atomico research

3.4

The UK is Europe's dominant destination for migratory tech talent

The UK is the #1 destination for tech talent moving into - and within - Europe, but faces strong competition from other countries to attract talent

Top 10 European destinations for all international movers into European tech

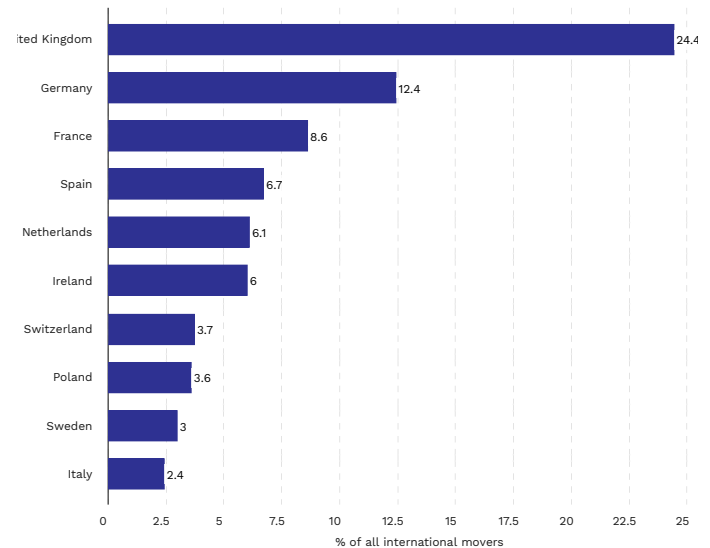


Note: All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A 'mover' is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2017 and 2016

Source: LinkedIn

For additional context, it is worth analysing a similar dataset covering tech talent movement in 2016 provided by LinkedIn for last year's State of European Tech

Top 10 European destination for all international movers into European tech in 2016

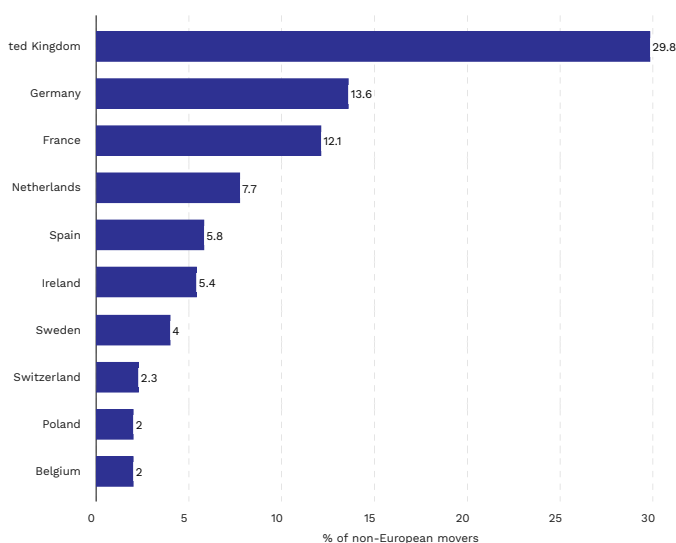


Note: All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A 'mover' is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2016 and 2015

Source: LinkedIn

Germany, France and the Netherlands are the main challengers to the UK in terms of destinations of choice for talent moving into Europe's tech industry from outside the region

Top 10 European destinations for non-European movers into European tech industry

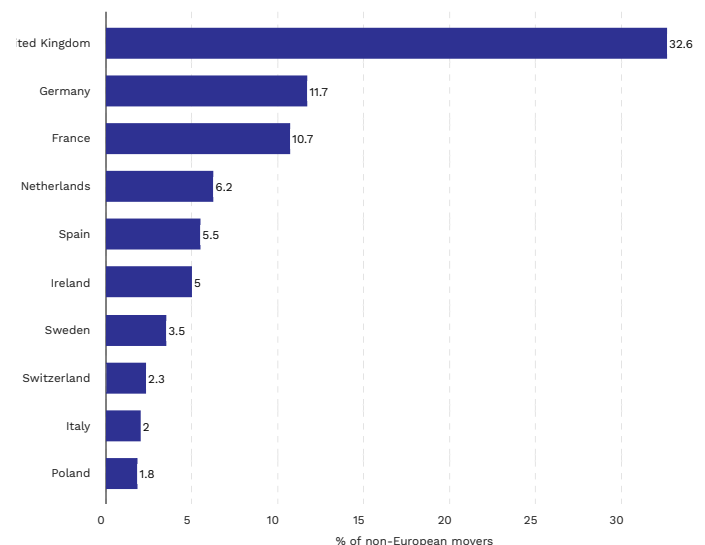


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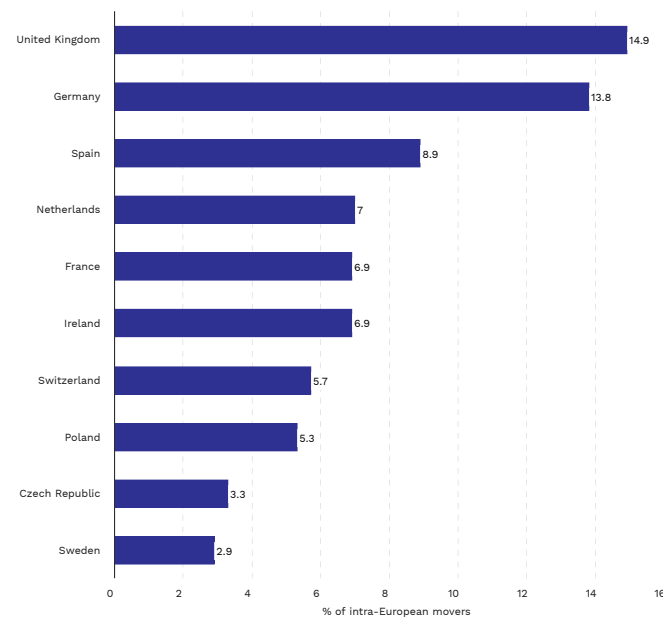
Note: All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A 'mover' is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2016 and 2015

Source: LinkedIn

The UK's position as Europe's dominant destination for tech talent is being eroded

The UK and Germany are the top two countries leading the race to attract talent moving within Europe

Top 10 European destinations for intra-European movers within European tech industry

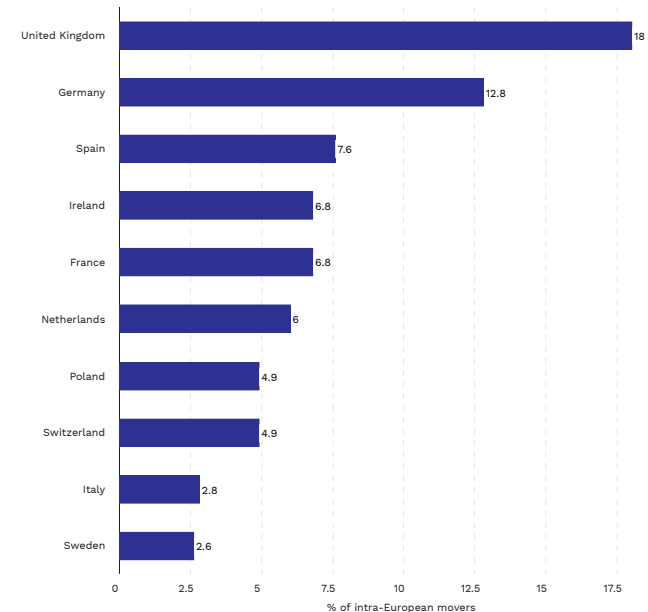


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Source: LinkedIn

For additional context, it is worth analysing a similar dataset covering tech talent movement in 2016 provided by LinkedIn for last year's State of European Tech

Top 10 European destinations for intra-European movers within European tech industry in 2016



Note: All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A 'mover' is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2016 and 2015

Source: LinkedIn

London is the top city destination both for tech talent moving within Europe, as well as for those entering the tech industry from outside the region

Top 5 European city destinations for all migrants into and within European tech industry

Rank	Top European city destinations (intra-European migrants)	Top European city destinations (non-European migrants)
1	London	London
2	Paris	Paris
3	Madrid	Amsterdam
4	Berlin	Berlin
5	Amsterdam	Madrid

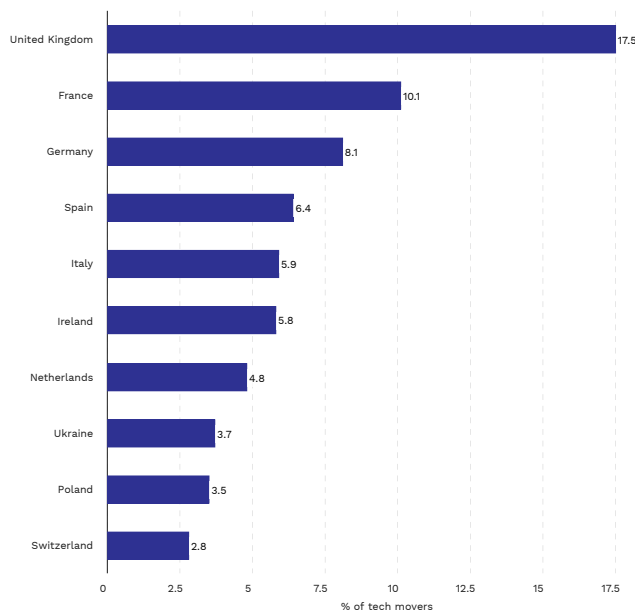
Source: LinkedIn

3.5

The UK is the number one source of outbound tech talent moving within Europe's tech industry

The UK is the source of the largest share of outbound tech talent leaving to move to another country within Europe

Top 10 European source countries of intra-European movers within European tech

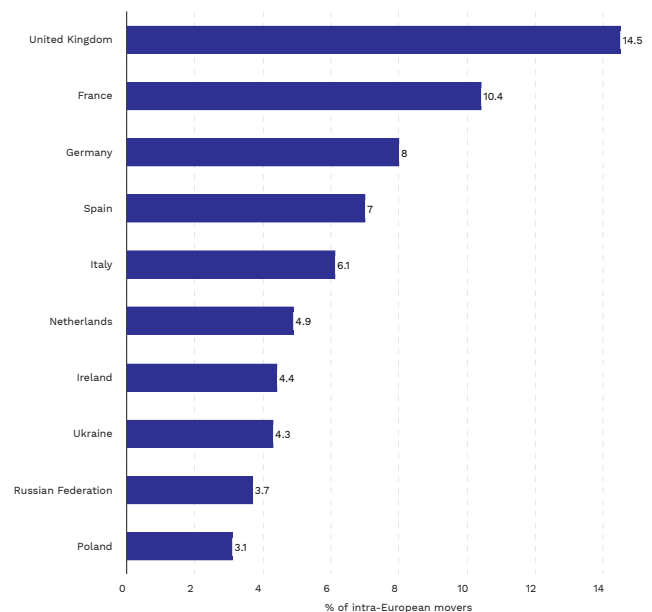


Note: All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A 'mover' is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2017 and 2016

Source: LinkedIn

For additional context, it is worth analysing a similar dataset covering tech talent movement in 2016 provided by LinkedIn for last year's State of European Tech

Top 10 European source countries of intra-European movers within European tech in 2016



Note: All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A 'mover' is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2016 and 2015

Source: LinkedIn



“

A lot of smart people I know in tech are moving from London to Berlin after Brexit - they are really open to trying to go elsewhere.

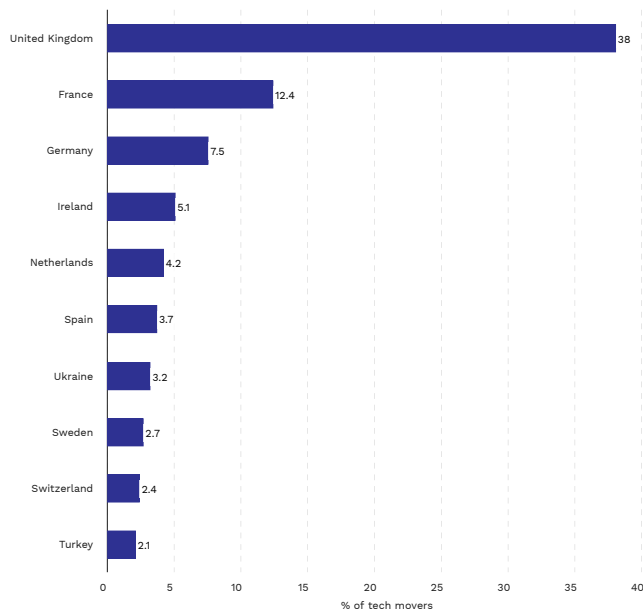
Jutta Steiner
Parity Technologies

”

More people are leaving the UK's tech industry than that of any other European country

The UK is also significantly larger than other countries as a source of outbound talent leaving Europe's tech industry for a country outside of the region

Top 10 European source countries of European movers out of European tech

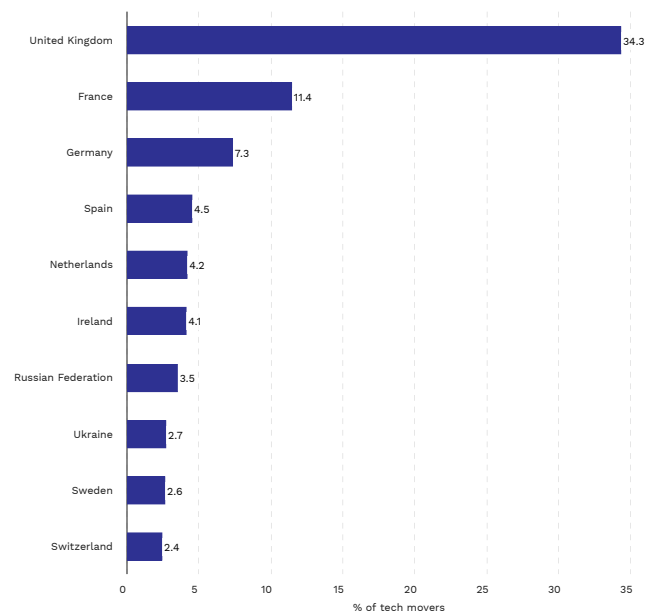


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Source: LinkedIn

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Top 10 European source countries of intra-European movers within European tech in 2016



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Source: LinkedIn



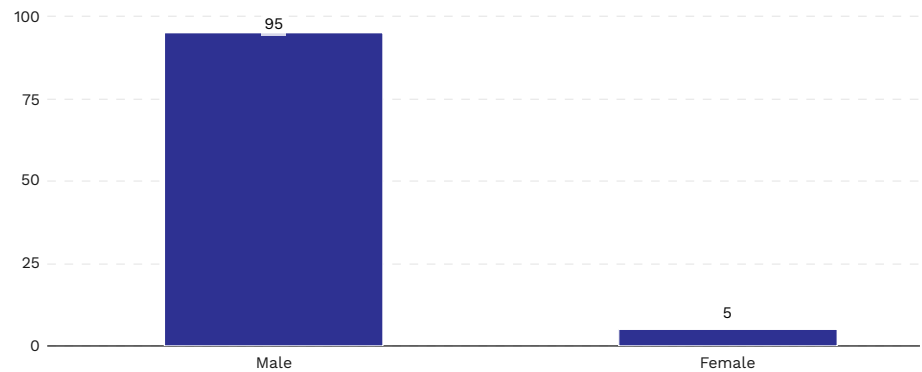
3.6

Portrait of a European founder

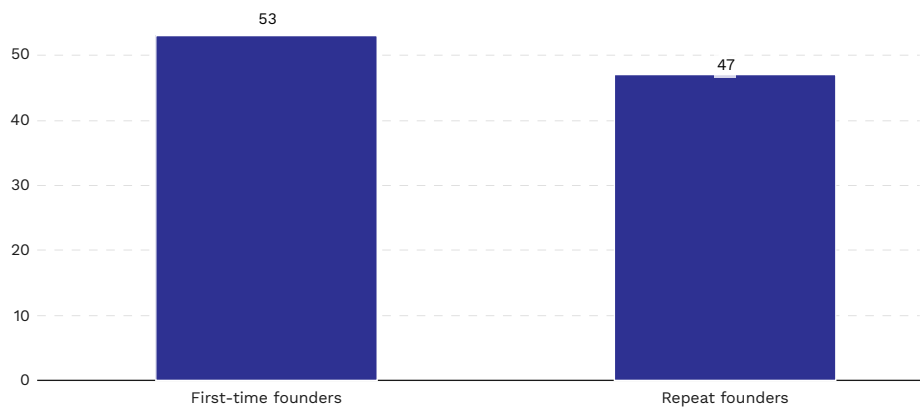
European founders come from a variety of backgrounds. They are, however, overwhelmingly male

Characteristics of European founders

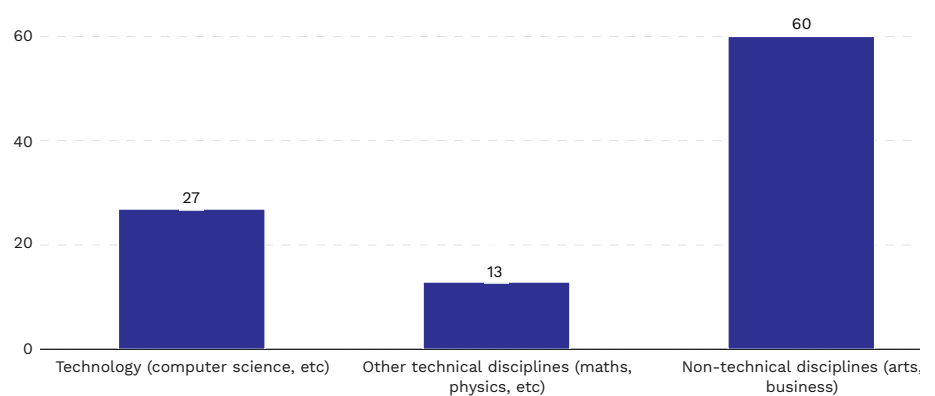
Gender



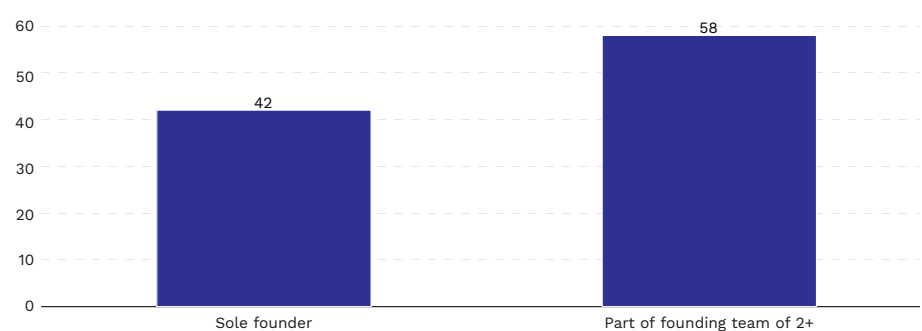
First-time versus repeat founders



Educational background



Sole founders versus founding teams



Note:

Based on an analysis of the founders of 2,300+ European companies that have raised >€1M. Data collected in October and November 2017

Source:

Dealroom.co

Europe’s top technical and business schools are key sources of entrepreneurial talent

Note: Based on an analysis of the founders of 2,300+ European companies that have raised >€1M. Data collected in October and November 2017

Source: Dealroom.co

Top 10 institutions by number of alumni that have founded companies

Rank	Institution
1	University of Cambridge
2	HEC Paris
3	University of Oxford
4	INSEAD
5	Harvard Business School
6	ESCP Europe
7	London Business School
8	Imperial College London
9	ESSEC Business School
10	Copenhagen Business School

Consulting firms and big tech companies are key sources of European founders

Note: Based on an analysis of the founders of 2,300+ European companies that have raised >€1M. Data collected in October and November 2017

Source: Dealroom.co

Top 10 companies by number of alumni that have founded companies

Rank	Company
1	McKinsey
2	Rocket Internet
3	The Boston Consulting Group
4	Accenture
5	Google
6	Goldman Sachs
7	IBM
8	Ernst & Young
9	Siemens
10	Microsoft



Photo: Sami Heiskanen

34 COMMUNITY

Over the last couple of years, this report has identified a growing number of tech hubs

Some of them have emerged in the continent's biggest cities, which is to be expected, whilst others have grown in smaller towns.

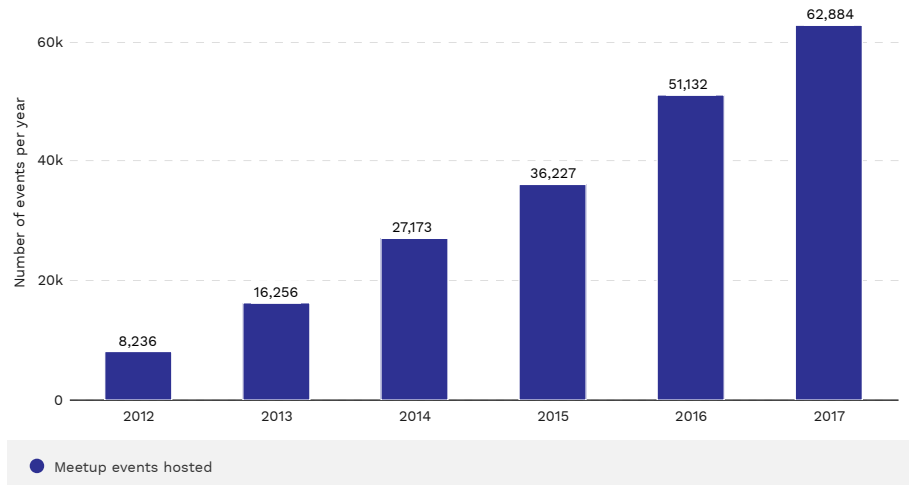
Are our tech communities growing broader or getting deeper?

4.1

Europe's growing and highly-engaged tech communities

There are hundreds of tech-related events happening daily across Europe's tech ecosystem

Number of tech-related Meetup events per year and per day in Europe



Note: 2017 annualised based on data to end of September 2017

Source: Meetup

Europe's tech community enjoys access to an incredible range of events to network and share knowledge and experiences

172

tech-related events take place daily across Europe on Meetup's platform



“

A small group of successful entrepreneurs can have tremendous impact on building a tech community. It only requires four to five successful entrepreneurs setting up a variety of basic building blocks that become powerful conduits for knowledge transfer through sharing deals, comparing notes and explaining what is globally best-in-class. This includes seed funds, accelerators, creating shared working and meeting spaces. These become talent magnets and inherently form healthy competition between the new generation of entrepreneurs building even more impactful products and businesses. Building a vibrant tech ecosystem is the modern alchemy for any economy serious about becoming a global leader.

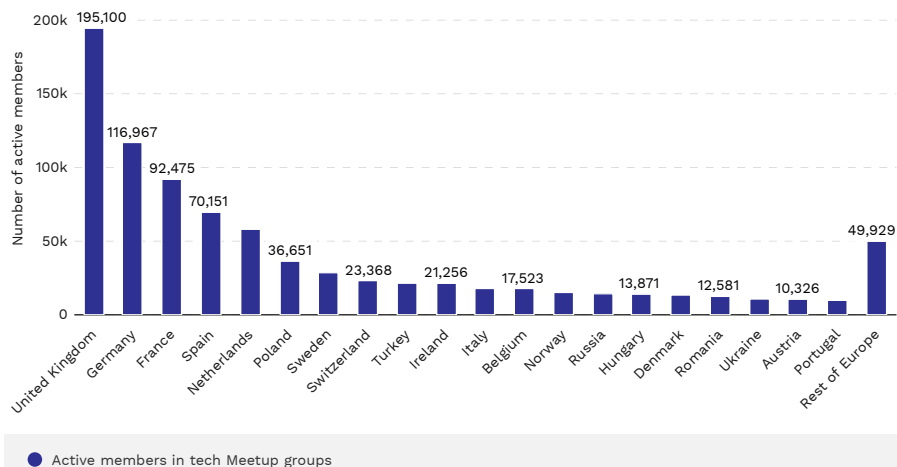
Mattias Ljungman
Atomico

”

Europe's growing and highly-engaged tech communities

There are sizeable communities coming together at tech events throughout Europe to swap ideas and experiences

Number of active members of tech-related Meetup groups by country

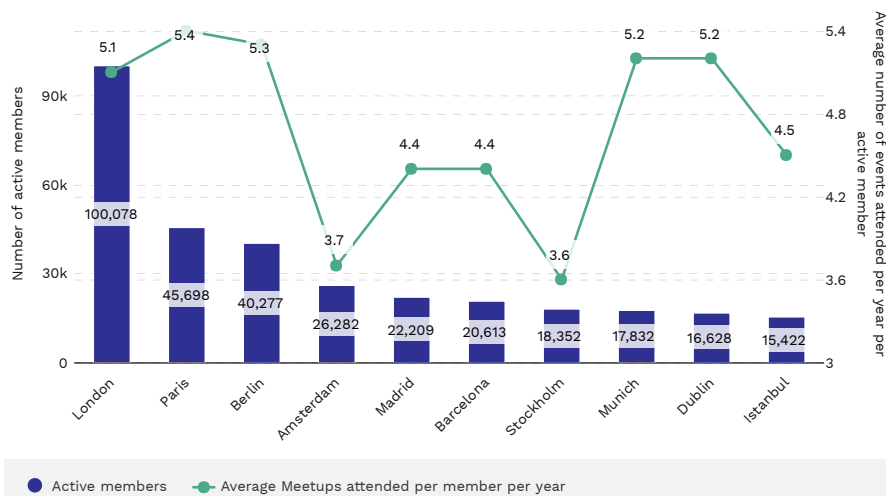


Source: Meetup

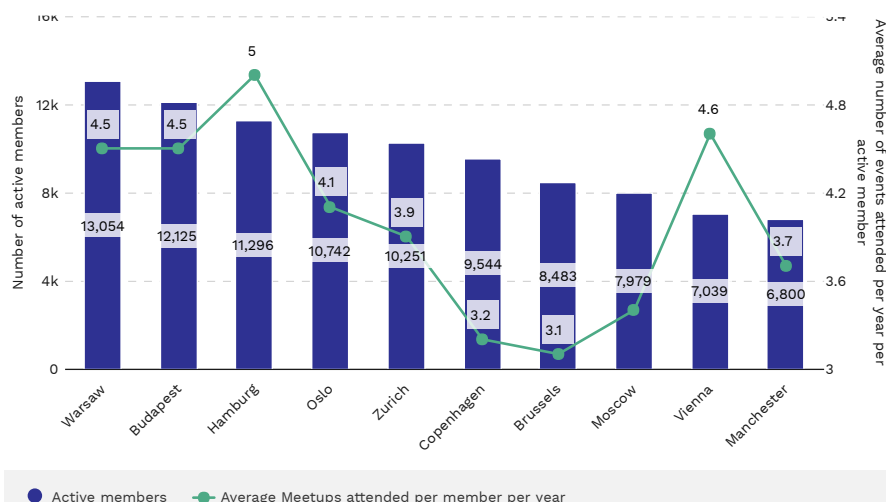
Europe's largest hubs for tech-related Meetups are also its most engaged

Number of active members by city and average number of events attended per year per active member

Top 10 Hubs



Hubs 11-20



Note:
2017 based on 9M to September 2017 and 2017 annualised based on RSVPs to end of September 2017

Source:
Meetup

Europe's growing and highly-engaged tech communities

“

We're witnessing several initiatives dedicated to strengthening the connections between local hubs, especially evident in the Nordics and CEE. Unfortunately, Western Europe isn't showing any signs of progress as Paris, London and Berlin continue competing to be crowned “tech capital” of the continent. Without more ambitious contributions from the private sector to create more sustainable bridges between these tech hubs, we will have no choice but to continue relying on current public initiatives that show little to no sign of solving this issue.

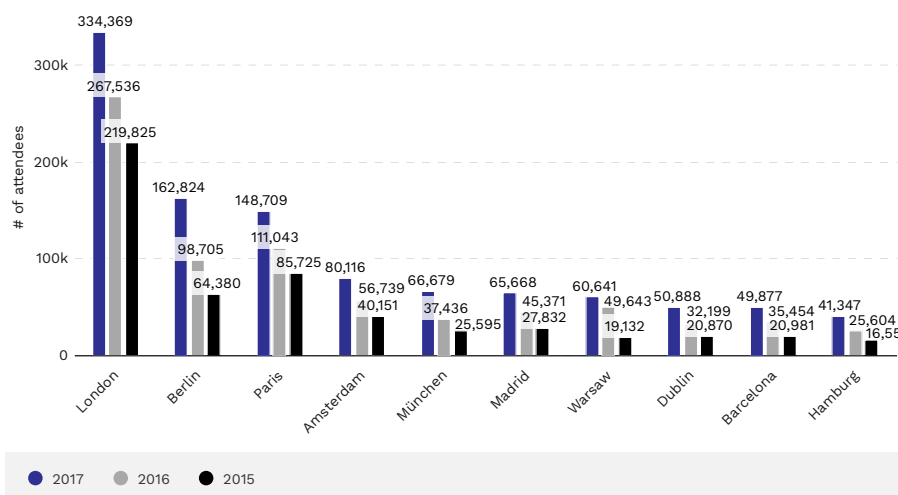
Ben Costantini
Startup Sesame

”

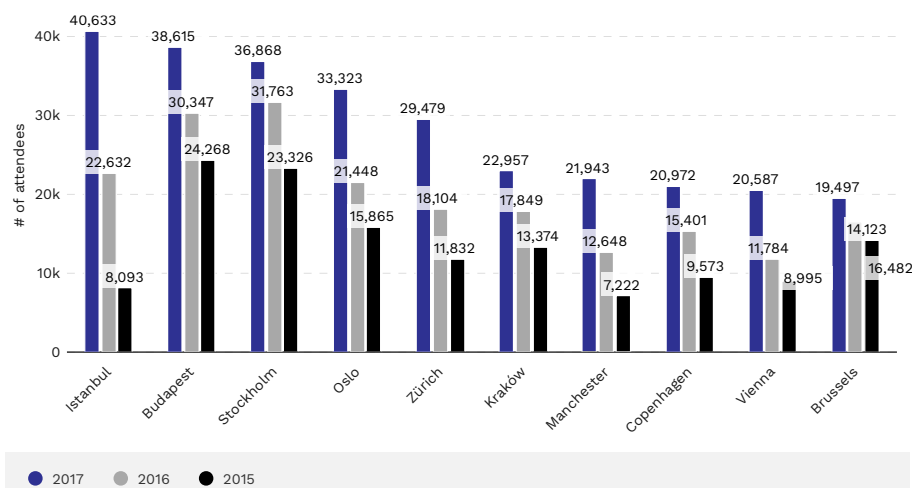
Europe's largest tech communities continue to see significant increases in engagement

‘Top 20 hubs by level of tech-related Meetup activityv

Top 10 Hubs



Hubs 11-20



Note: 2017 annualised based on RSVPs to end of September 2017

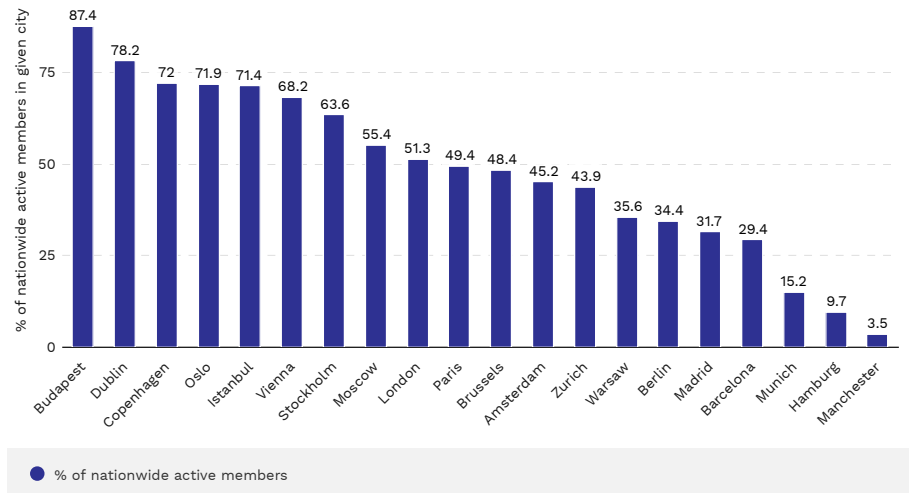
Source: Meetup

4.2

As tech eats Europe, every city is becoming a tech city

The density of concentration in primary tech hubs varies significantly between countries, especially as new hubs spring up and prosper within a country

Share of active members of tech-related Meetup groups in a given country that are located in selected city



Source: Meetup

Germany and Spain have the least-centralised tech ecosystems in Europe

34%

of Germany's tech community is based in Berlin

32%

of Spain's tech community is based in Madrid

87%

of Hungary's tech community, by contrast, is based in Budapest



“

No one European city has a monopoly on creating tech leaders, either; talent and ambition can come from anywhere, and Europe's entrepreneurs now have increased access to capital, regardless of geography.

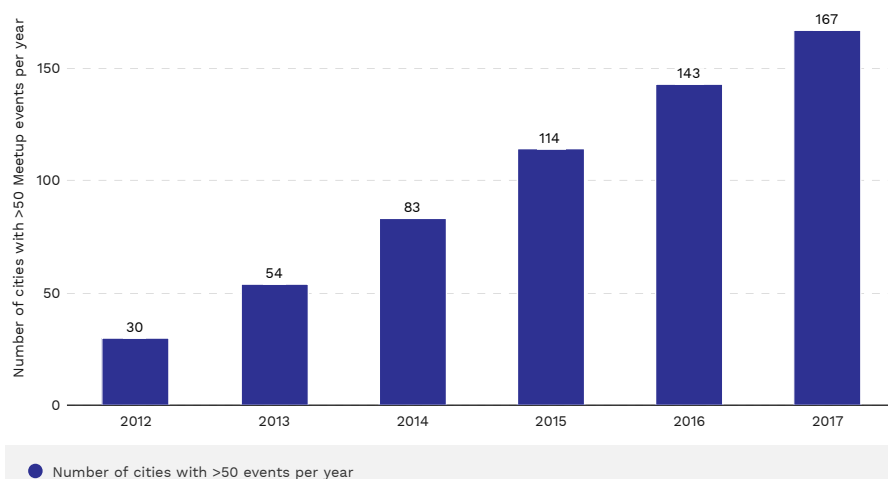
Luciana Lixandru
Accel

”

As tech eats Europe, every city is becoming a tech city

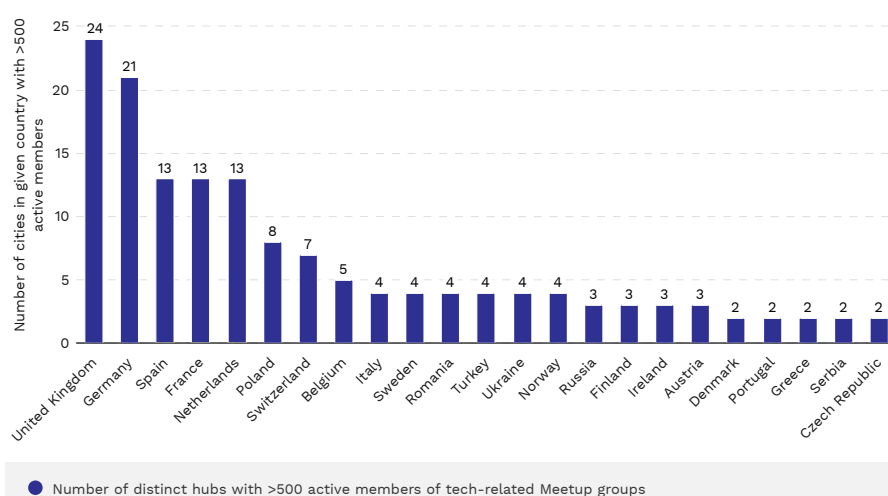
There are signs that every city is becoming - or will eventually become - a tech city. There are already 160+ hubs across Europe with significant tech communities

Number of European cities with >50 tech-related Meetup events per year



Looking at what's happening within individual countries, it's clear that Europe is witnessing the spread of tech communities within a growing number of cities

Number of distinct hubs with >500 active members of tech-related Meetup groups by country



Source: Meetup

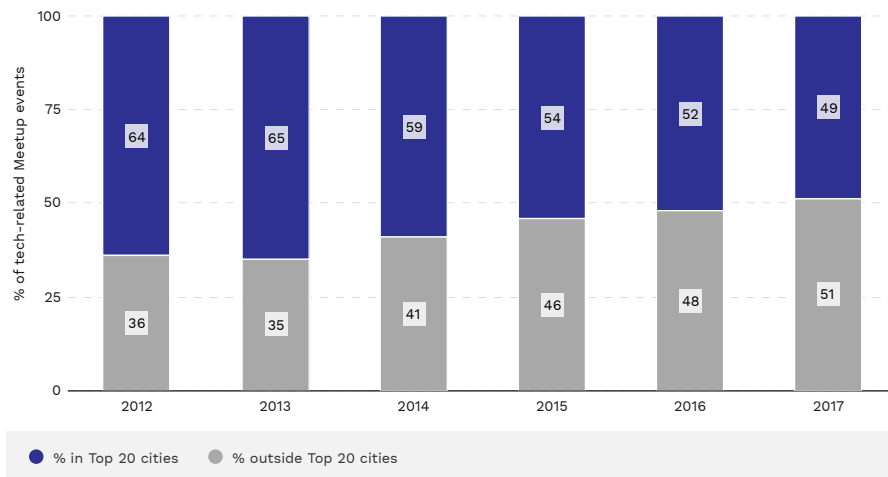


Photo: Jussi Hellsten

As tech eats Europe, every city is becoming a tech city

In fact, there are now more tech-related events happening outside Europe's Top 20 hubs than inside

Distribution of tech-related Meetup events in and outside of Top 20 hubs in Europe



Note: 2017 based on Meetup events to end of September 2017

Source: Meetup



“

It's been magnificent to see the accelerating pace of new tech hubs emerging all across Europe. As such a dispersed continent with so many countries and languages, Europe can find its unique strength in connecting these communities. We just need to keep on fuelling the fire and working together.

Marianne Vikkula
Slush

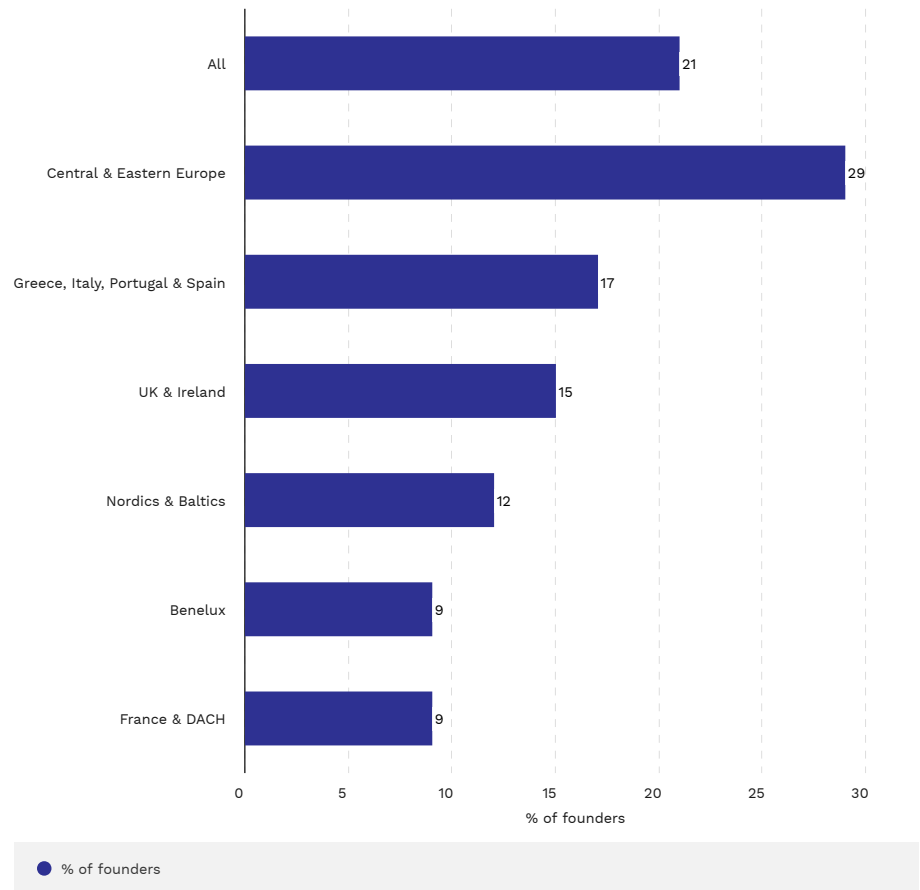
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4.3

Despite burgeoning local ecosystems, founders continue to move between countries to start-up

21% of European founders moved to another country to start-up, with highest founder mobility seen in Central & Eastern Europe

% of founders that moved to another country to start-up by region of origin



Source: Startup Heatmap Europe 2017, European Startup Initiative

Despite concerns about Brexit, London is the #1 most preferred location to start-up by European founders, followed by Berlin and Barcelona

Top 10 European hubs selected by European founders as their preferred location to start again

Rank	City	Change in rank versus 2016
1	London	1
2	Berlin	-1
3	Barcelona	1
4	Paris	9
5	Amsterdam	-2
6	Dublin	0
7	Stockholm	1
8	Lisbon	-3
9	Munich	-1
10	Milan	15

Source: Startup Heatmap Europe 2017, European Startup Initiative

Despite burgeoning local ecosystems, founders continue to move between countries to start-up

Access to talent is by far the most important factor influencing founder location choices

“

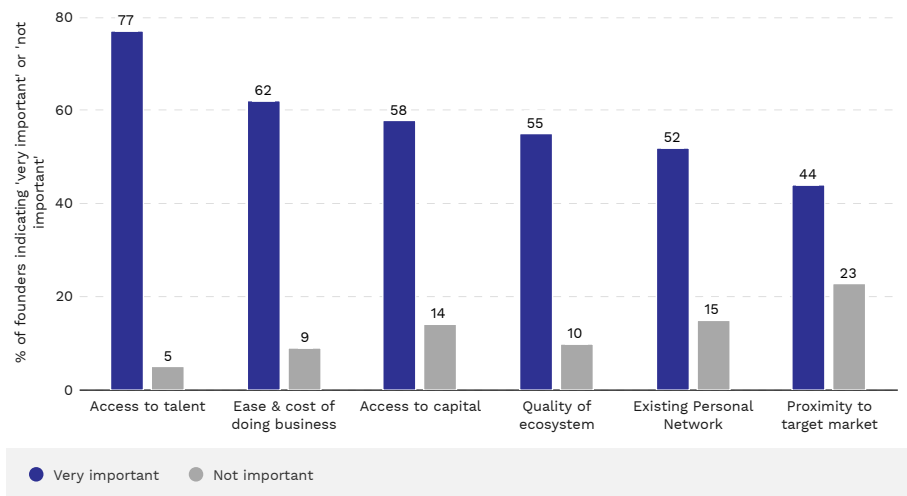
When I look at the other examples based in Estonia, such as Jobbatical, Funderbeam, TransferWise and Starship Technologies, they are all building relationships and collaborating outside of Estonia. It is also a good moment since we live during an era of digital disruption and we need to adopt a collaborative approach to stay ahead of the game.

Kristel Kruustük
Testlio

”

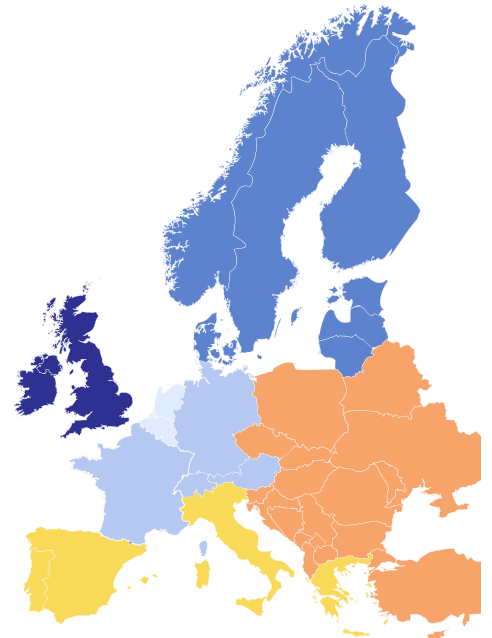
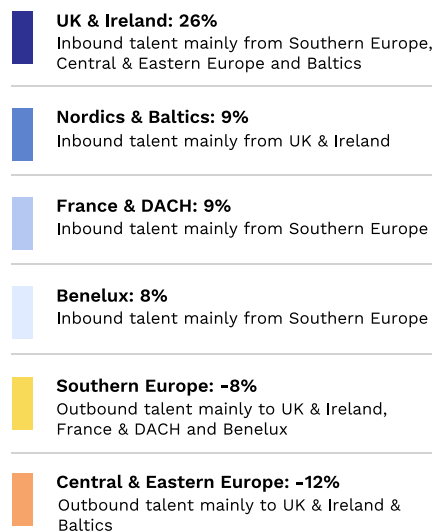
The migratory flow of talent is not evenly distributed; Southern, Central and Eastern Europe continue to see a loss of talent to other regions

Factors that influence location choice of European founders



Source: Startup Heatmap Europe 2017, European Startup Initiative

% surplus or deficit based on founder migration flows



“

European founders no longer think locally. They think continentally, and have grown their ambition to become global players. Europe houses top technical and business schools and entrepreneurship is now a top of mind choice.

José del Barrio
Samaipata Ventures

”

CAPITAL FLOWS

Some people like to look at pure financials

Are the number of investments in tech companies up or are they down? Is the total amount of money invested in European tech companies still growing?

Can this really be another record year for European tech?

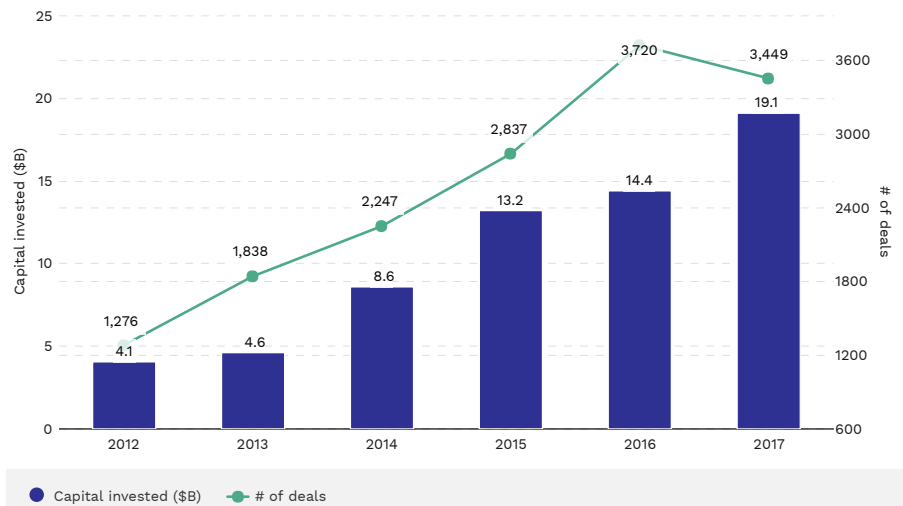
Is there anything else to be done to attract more capital from LPs?

5.1

Another record year for European tech investment

Total capital invested into European tech in 2017 will comfortably exceed the record-breaking levels of 2016

Capital invested (\$B) and # of deals, annual, 2012 to 2017



Note: All Dealroom.co data excludes the following: biotech, secondary transactions, debt, lending capital, grants. Please also note the data excludes Israel. 2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

Source: Dealroom.co

Europe has seen more than \$3B invested per quarter for 11 consecutive quarters

Capital invested (\$B) and # of deals per quarter



Source: Dealroom.co

“

There's capital out there for starting and scaling companies at a level that has not been seen in Europe historically. We've observed growth in the number of funds across early and growth stage. And with a maturing ecosystem, we're seeing increased investment from US and Asia for scaling companies and a resurgence of the 'mega-round' with companies raising more than \$100m.

Stephen Lowery
Silicon Valley Bank

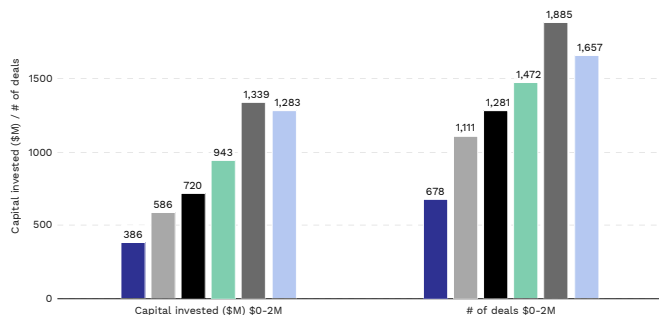
”

Another record year for European tech investment

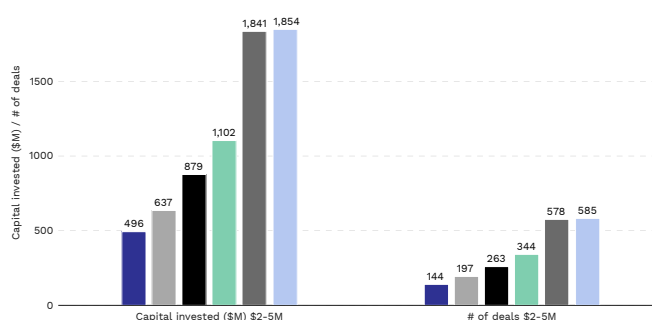
There has been an increase in capital invested and number of deals for all round sizes, except for <\$2M rounds, which declined slightly in 2017

Capital invested (\$M) and # of deals by round size

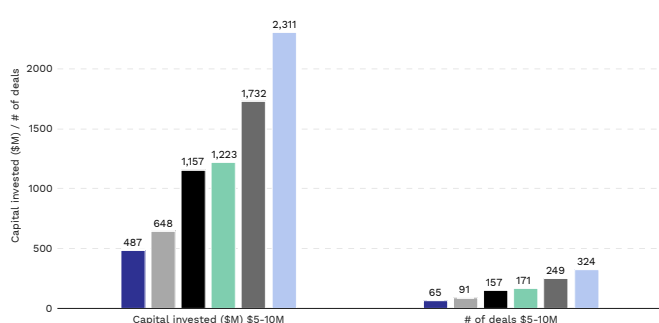
Round size: \$0-2M



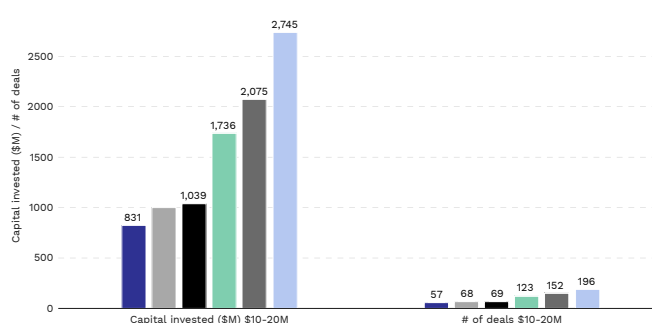
Round size: \$2-5M



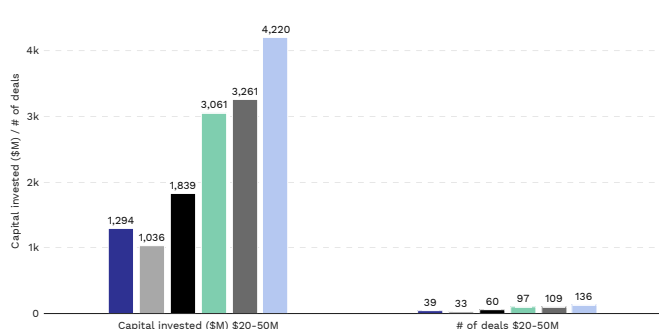
Round size: \$5-10M



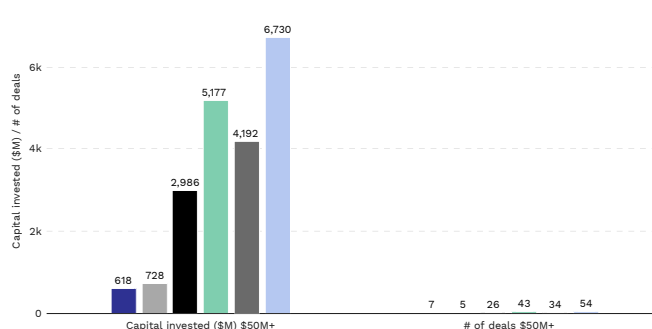
Round size: \$10-20M



Round size: \$20-50M



Round size: \$50M+



Legend: 2012 (blue), 2013 (grey), 2014 (black), 2015 (green), 2016 (dark grey), 2017 (light blue)

Source: Dealroom.co

“

It's nothing like when I launched, when my boss said to me 'Brent, have you ever come across two people under 30 who've raised over \$1million from a business plan?' and we were like 'No!'. Now we can think of hundreds of people - it's much better now, there are many more support networks and there is a monetisation system out there for entrepreneurs.

Brent Hoberman

Founders Factory, Founders Forum, firstminute capital

We are seeing the first indications of a stabilisation in the # of earliest stage funding rounds, reflecting a global trend

12%

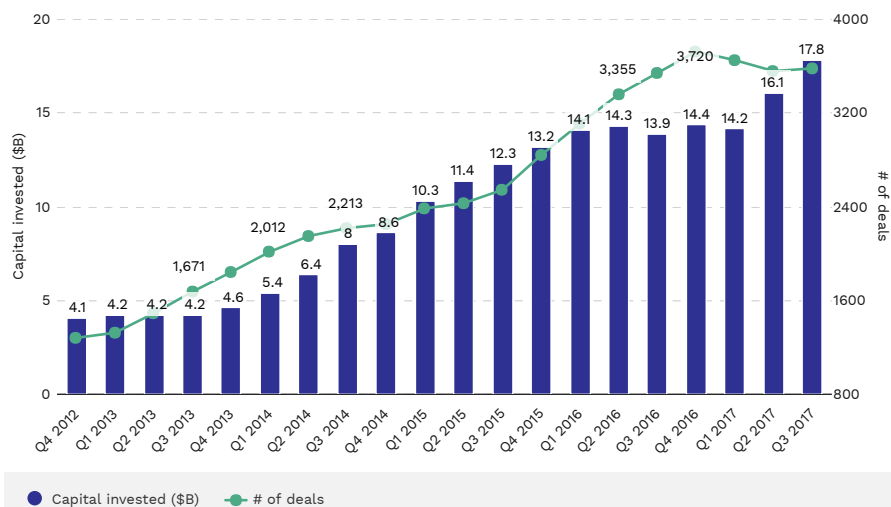
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decline in # of deals between \$0-2M year-on-year

Another record year for European tech investment

The long-term investment trend in Europe reflects the remarkable expansion of its technology ecosystem

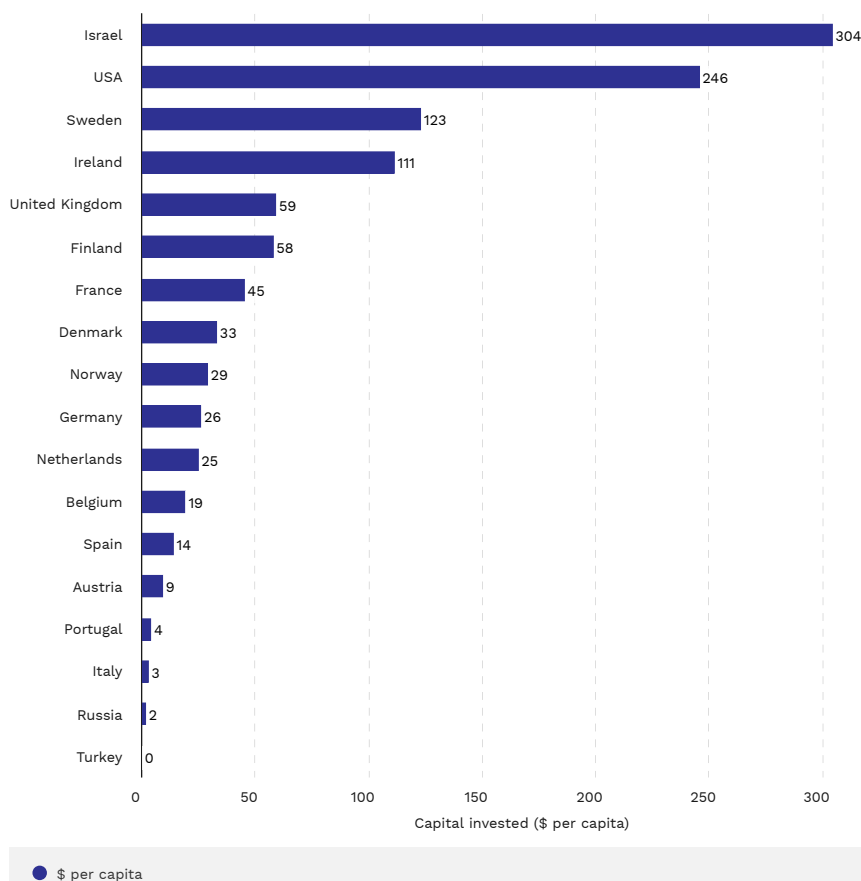
Trailing 12-month capital invested (\$B) and # of deals by quarter



Source: Dealroom.co

But there is still huge headroom. European countries still lag others such as the US and Israel in terms of capital invested per capita

Capital invested (\$) per capita by country



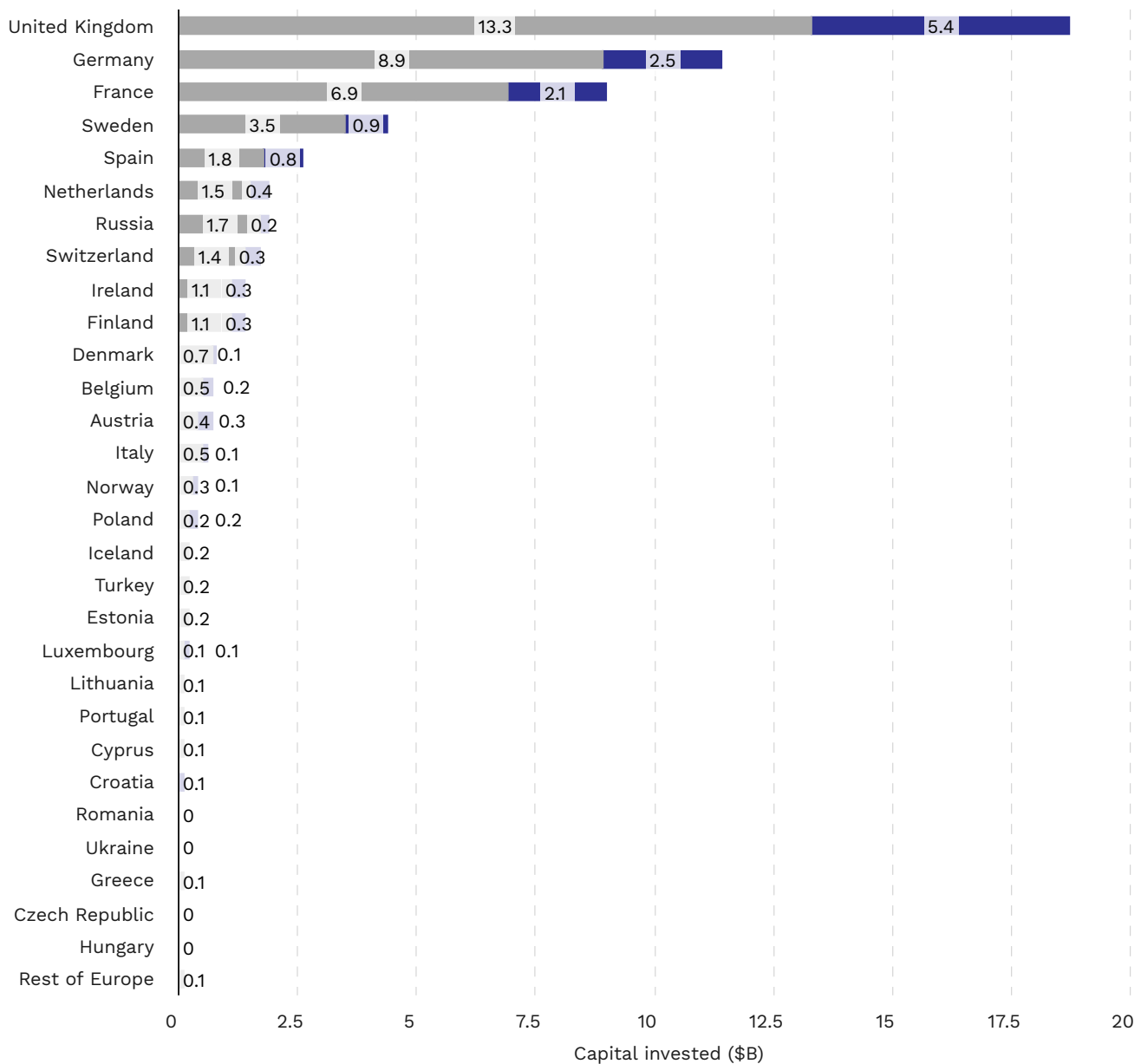
Note: Based on capital invested (\$B) in 2016

5.2

A deep dive into European tech

The UK remains the largest destination for capital invested in Europe; in addition, 10 countries have now raised >\$1B since 2012

Capital invested (\$B) by country



● 2017 (YTD) ● 2012-2016

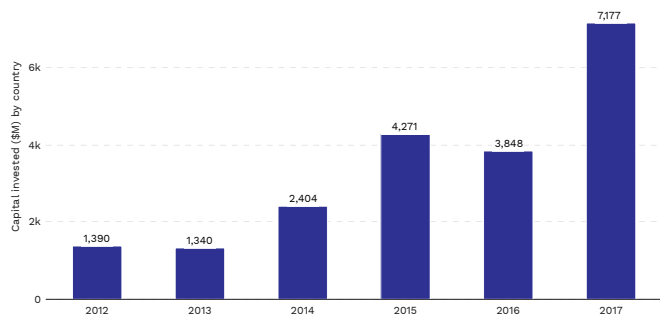
Source: Dealroom.co

A deep dive into European tech

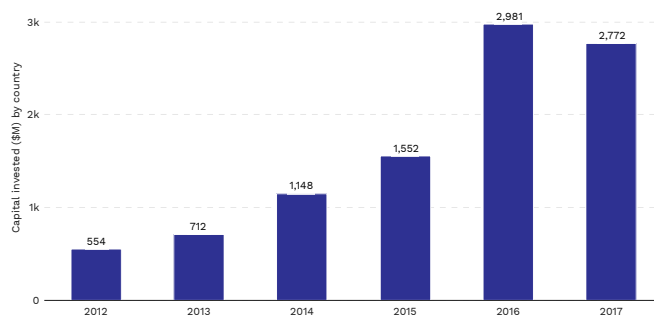
The UK, France and Germany dominate stories about European investment levels, but digging beneath the surface it's the growth of capital invested into countries such as Belgium, Norway or Romania that tells another important story

Capital invested (\$M) by country per year

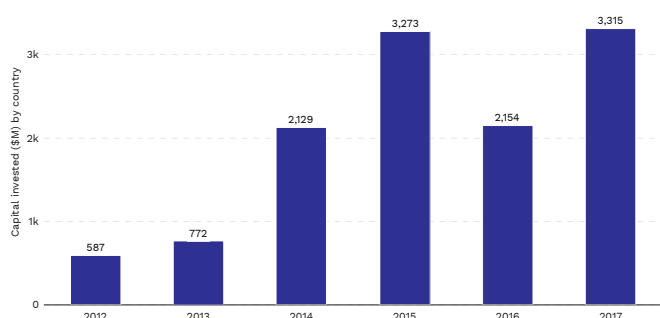
United Kingdom



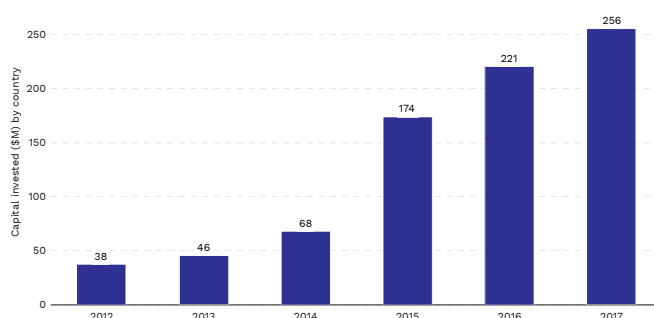
France



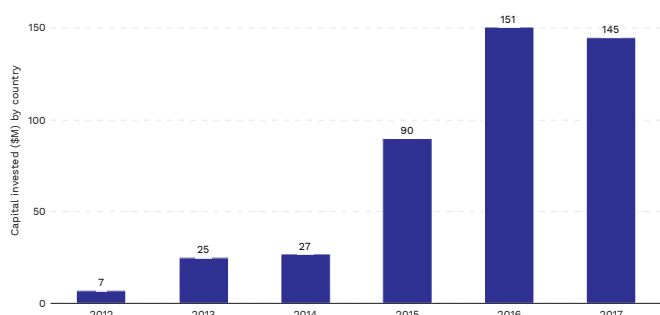
Germany



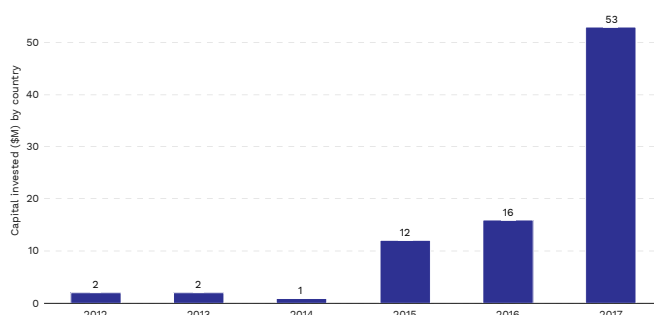
Belgium



Norway



Romania

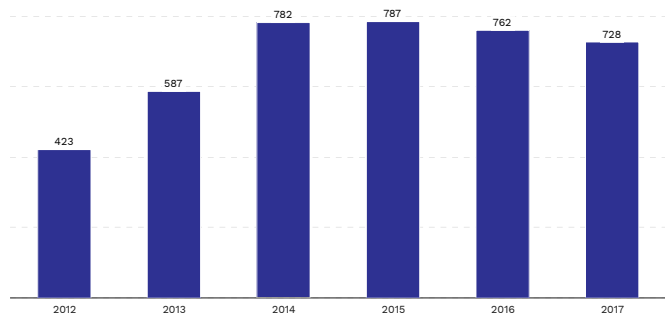


A deep dive into
European tech

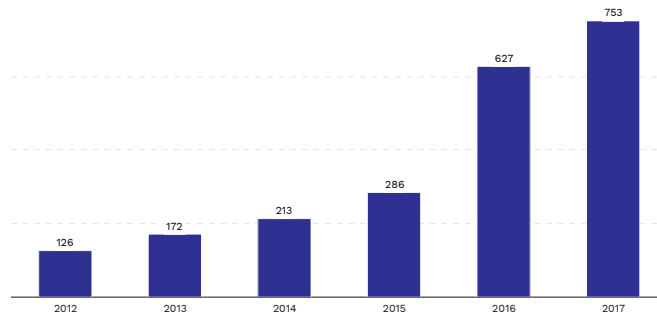
France is challenging the UK for the most number of deals closed per year

Number of deals by country per year

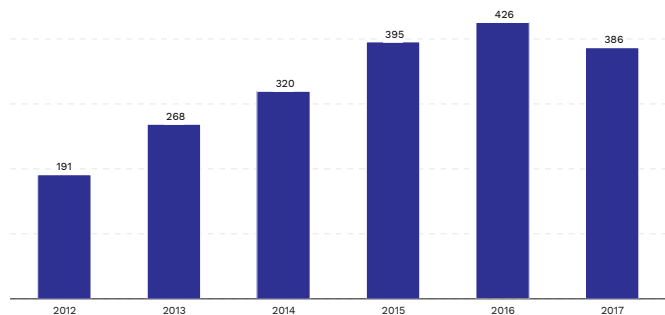
United Kingdom



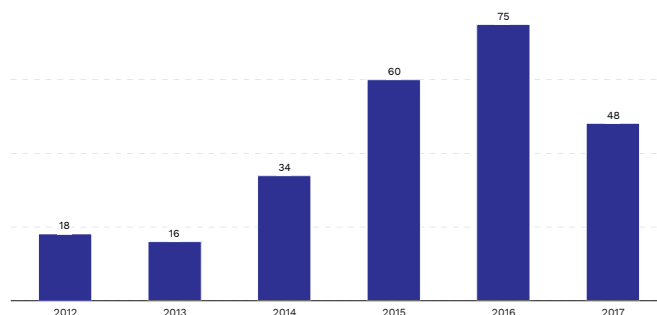
France



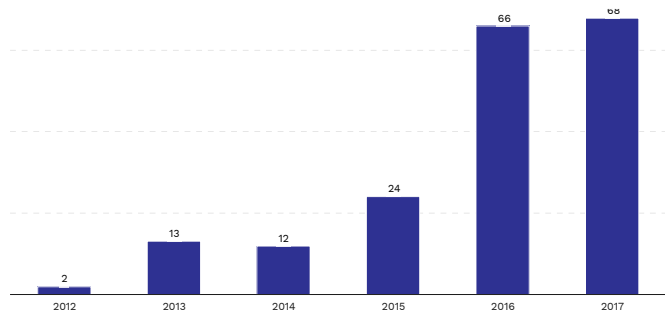
Germany



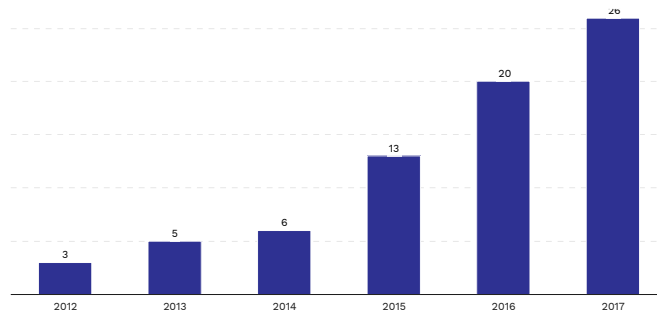
Belgium



Norway



Romania

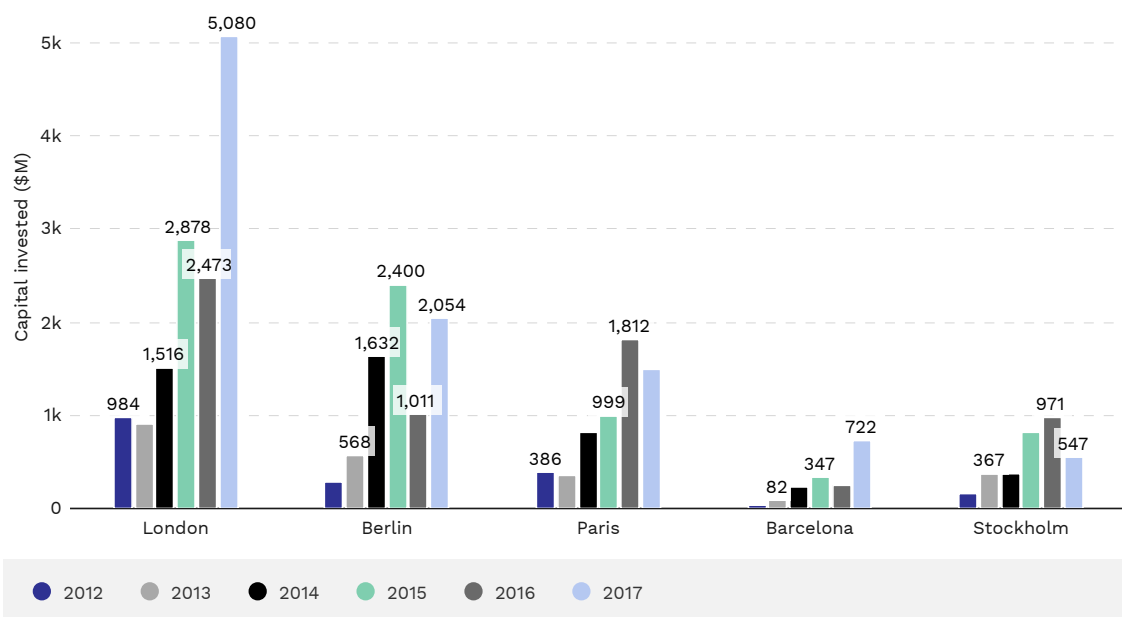


A deep dive into
European tech

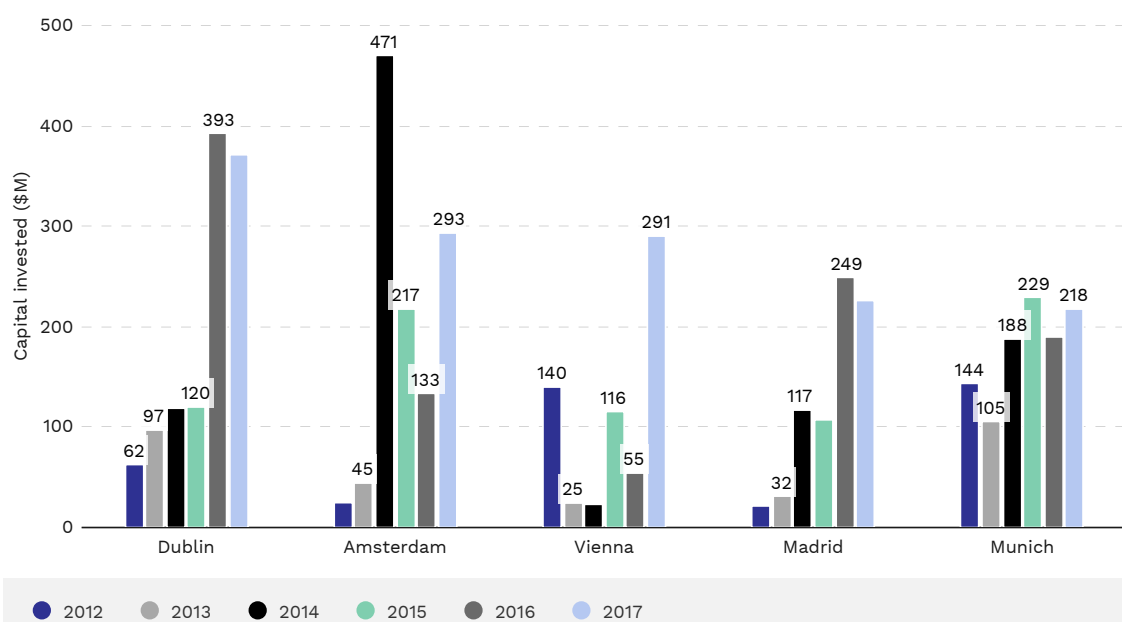
The diversification of European tech continues to be reflected by increased capital invested into cities such as Amsterdam, Munich, Vienna and Barcelona...

Top 20 European hubs by capital invested (\$M)

Top 5 hubs



Hubs 6-10

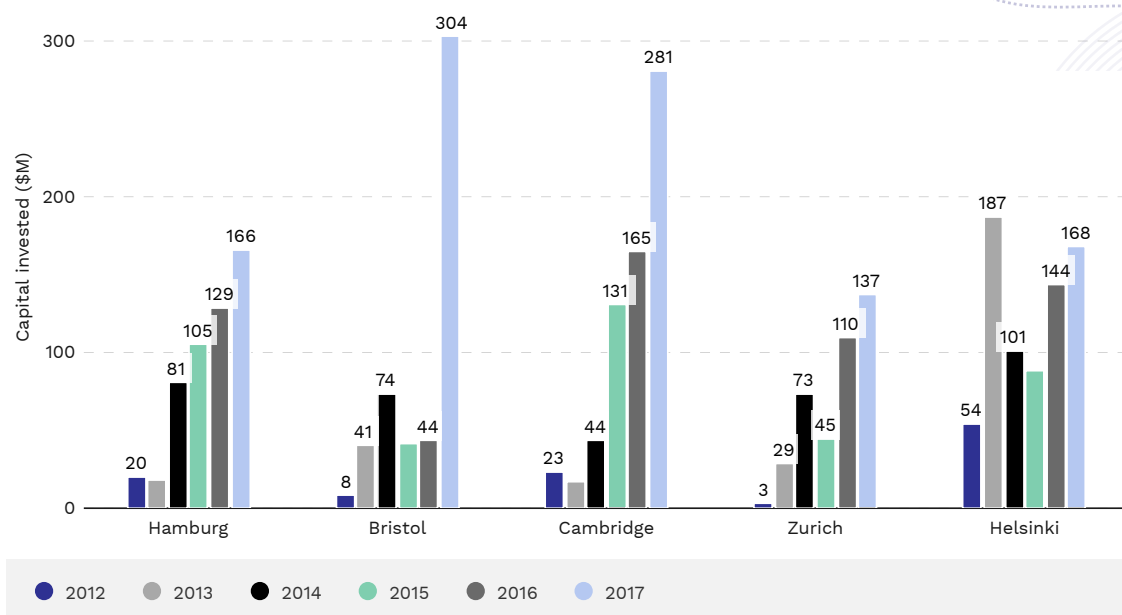


Note: 2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

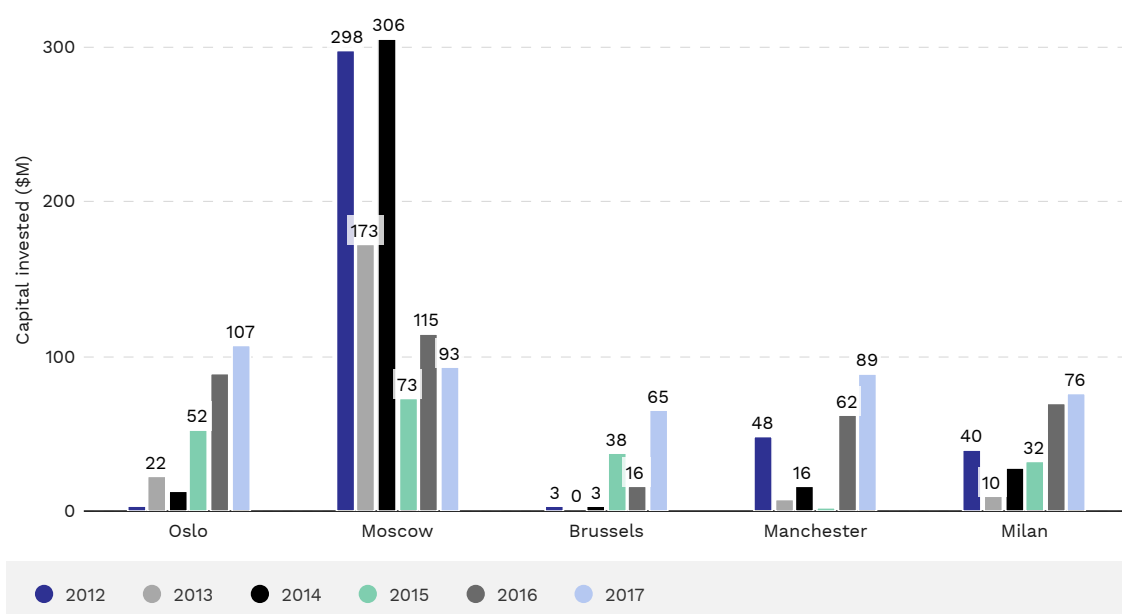
Source: Dealroom.co

Top 20 European hubs by capital invested (\$M)

Hubs 11-15



Hubs 16-20



Note: 2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

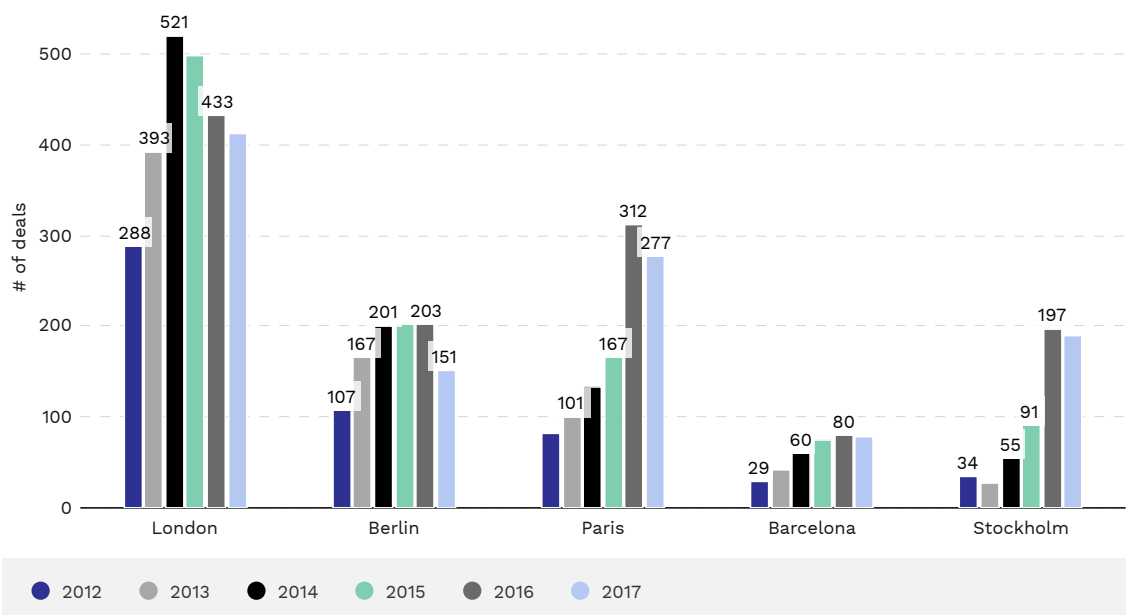
Source: Dealroom.co

A deep dive into
European tech

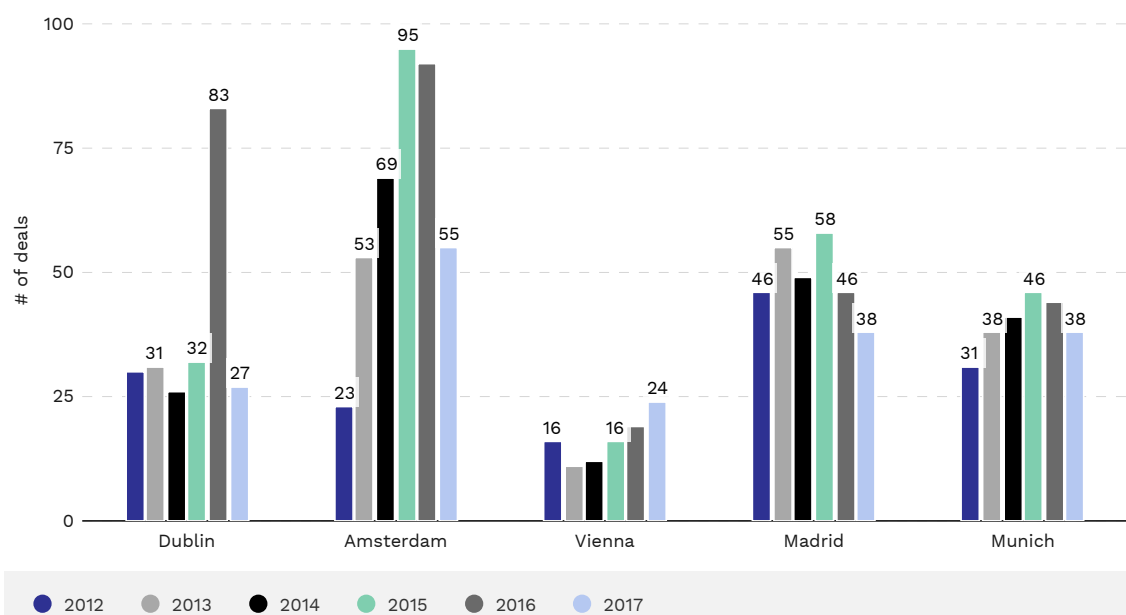
...as well as growing numbers of funding rounds
in the region's latest set of emerging tech hubs

of deals in Top 20 European hubs (ranked by capital invested in 2017)

Top 5 hubs



Hubs 6-10



Note: 2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

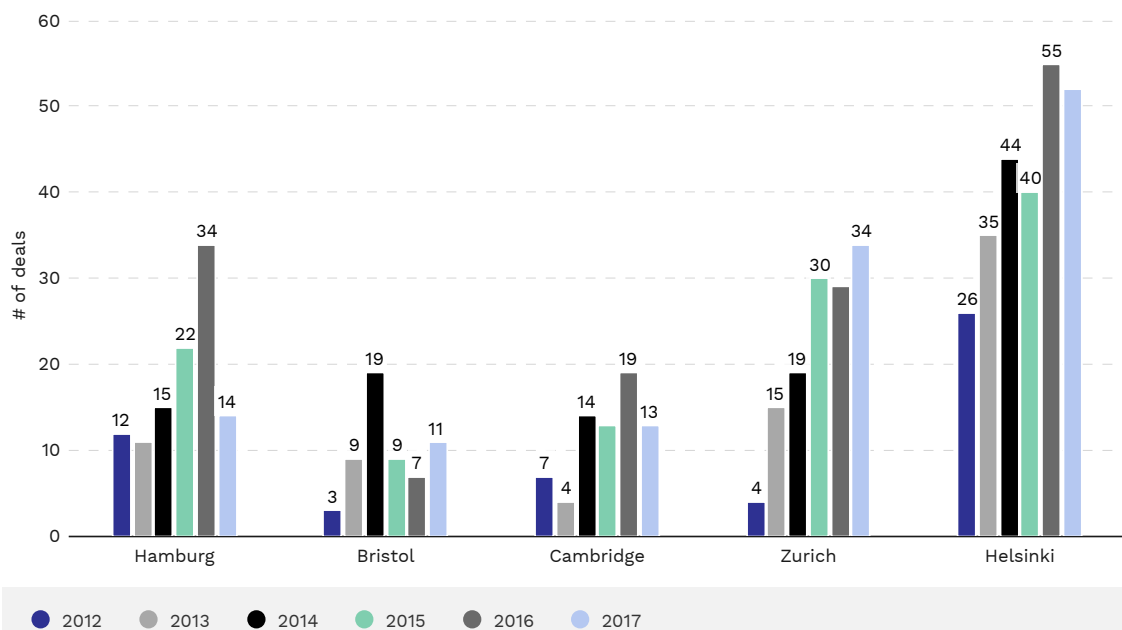
Source: Dealroom.co

A deep dive into
European tech

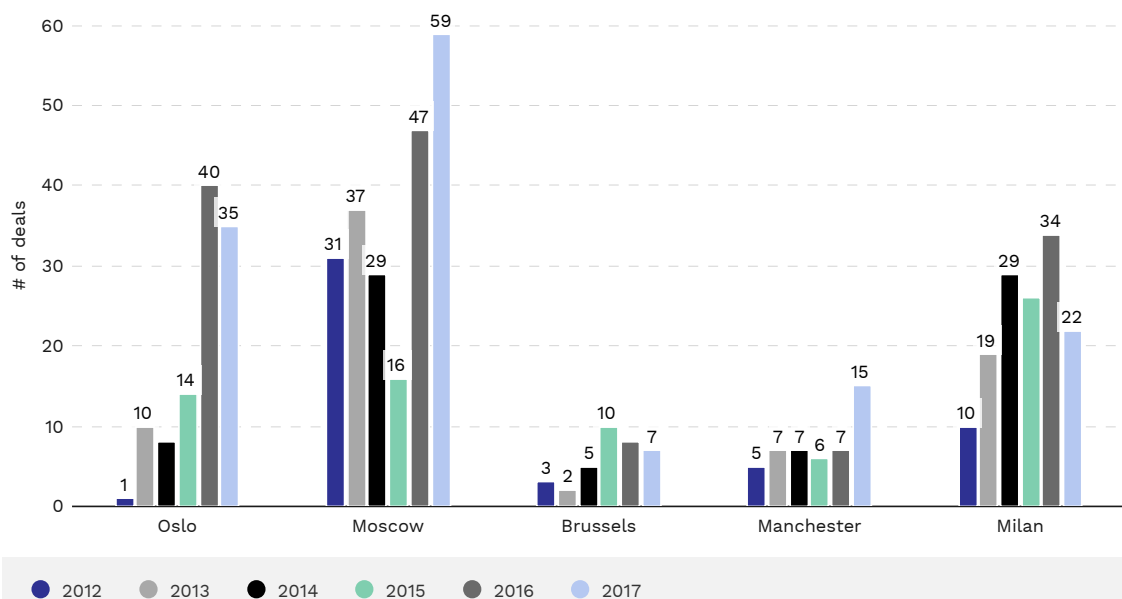


of deals in Top 20 European hubs (ranked by capital invested in 2017)

Hubs 11-15



Hubs 16-20



Note: 2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

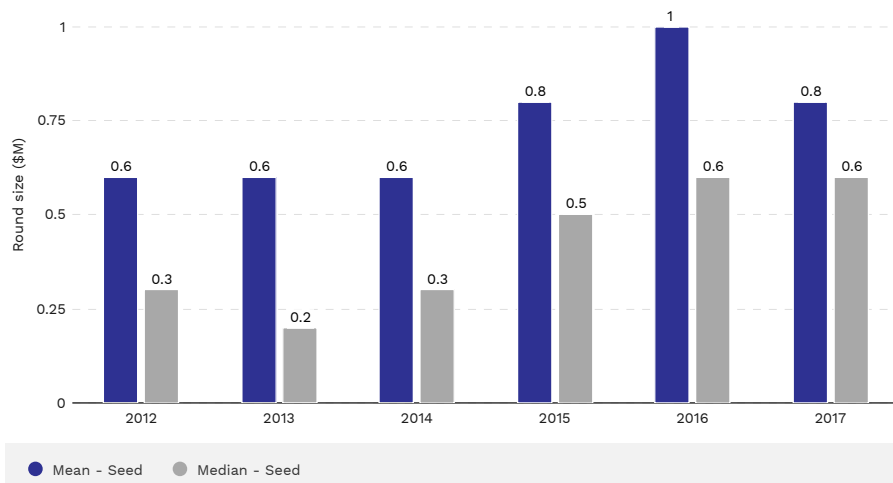
Source: Dealroom.co

A deep dive into
European tech

The median Series A round in Europe has increased significantly again and has now risen from \$3.3M in 2012 to \$5.5M in 2017

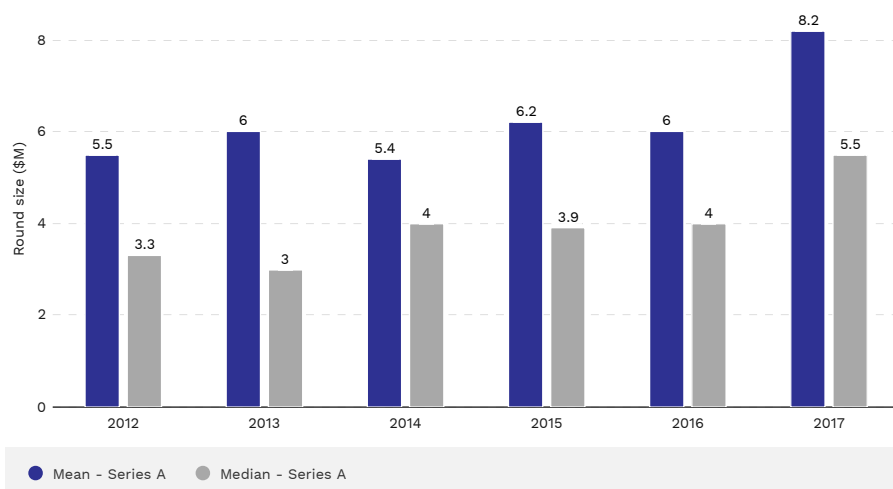
Mean and median round size (\$M) by stage

Seed

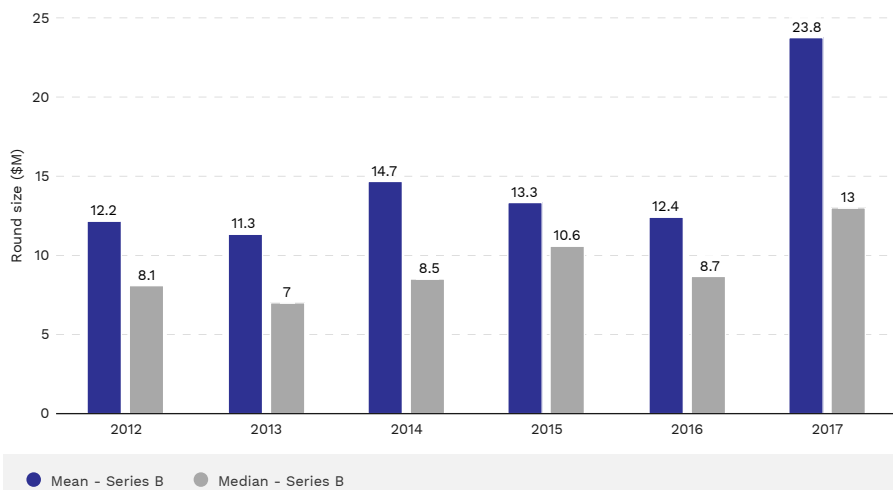


Source: Dealroom.co

Series A

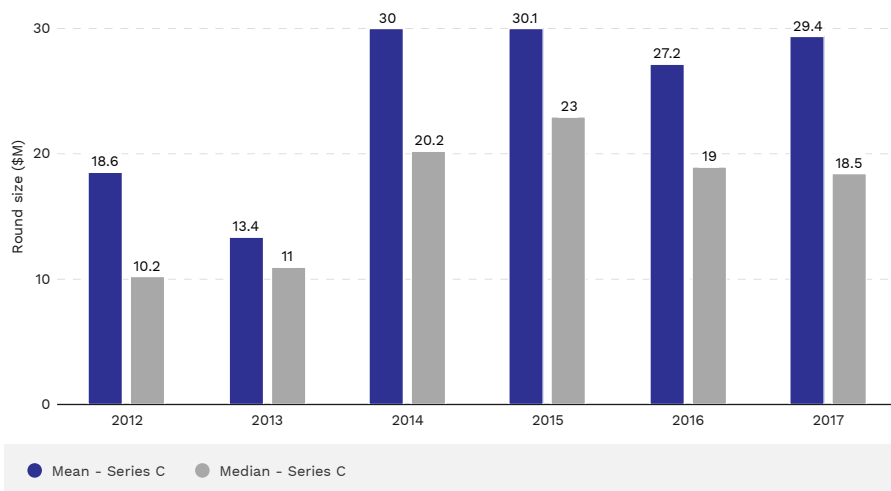


Series B



Mean and median round size (\$M) by stage

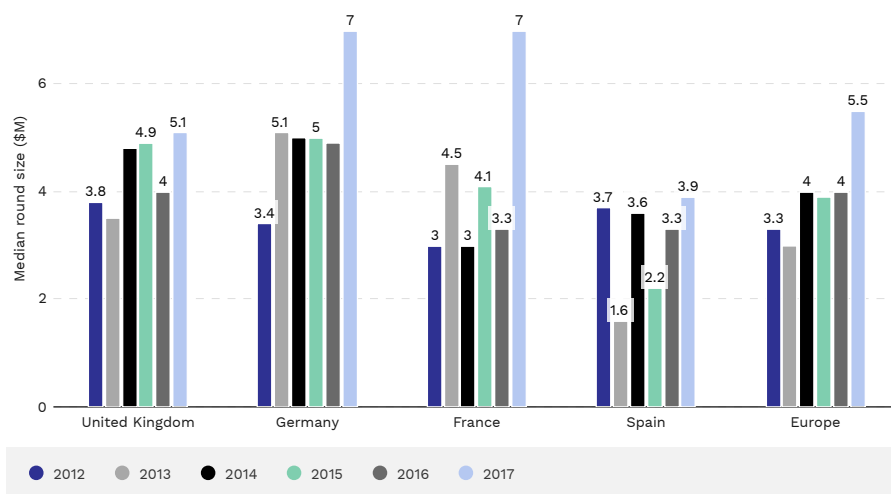
Series C



Source: Dealroom.co

A combination of more ambitious founders and an increasingly competitive VC landscape is driving up Series A round sizes, especially in France and Germany

Median Series A round size (\$) by country and year



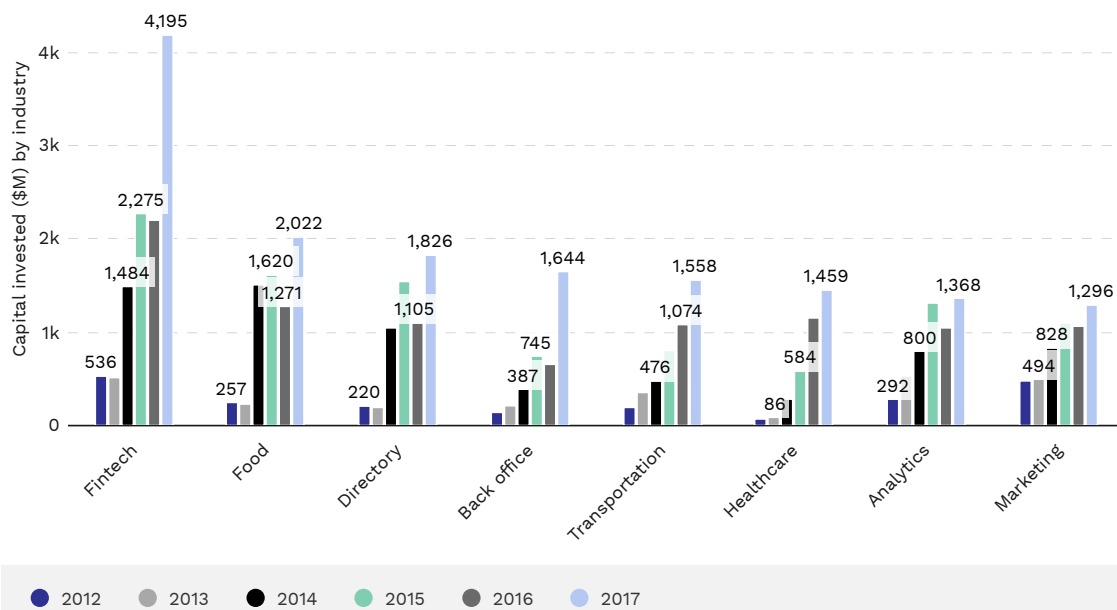
Source: Dealroom.co

A deep dive into
European tech

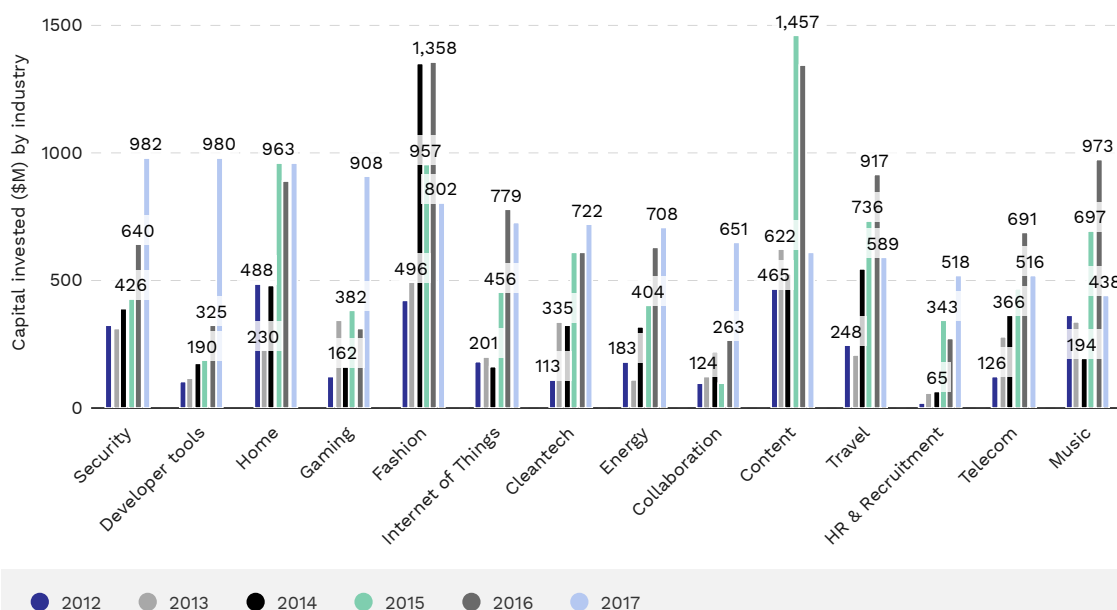
Fintech, food, transportation and healthcare have all seen large capital investments in 2017

Capital invested (\$M) by industry

Capital invested >\$1B in 2017



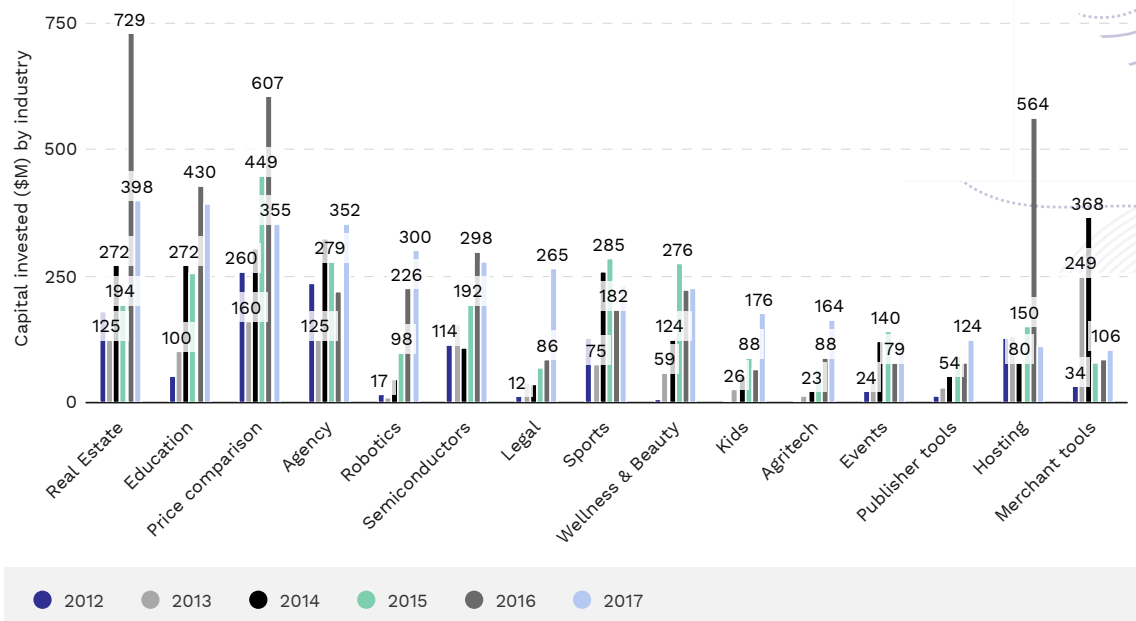
Capital invested \$500M-\$1B in 2017



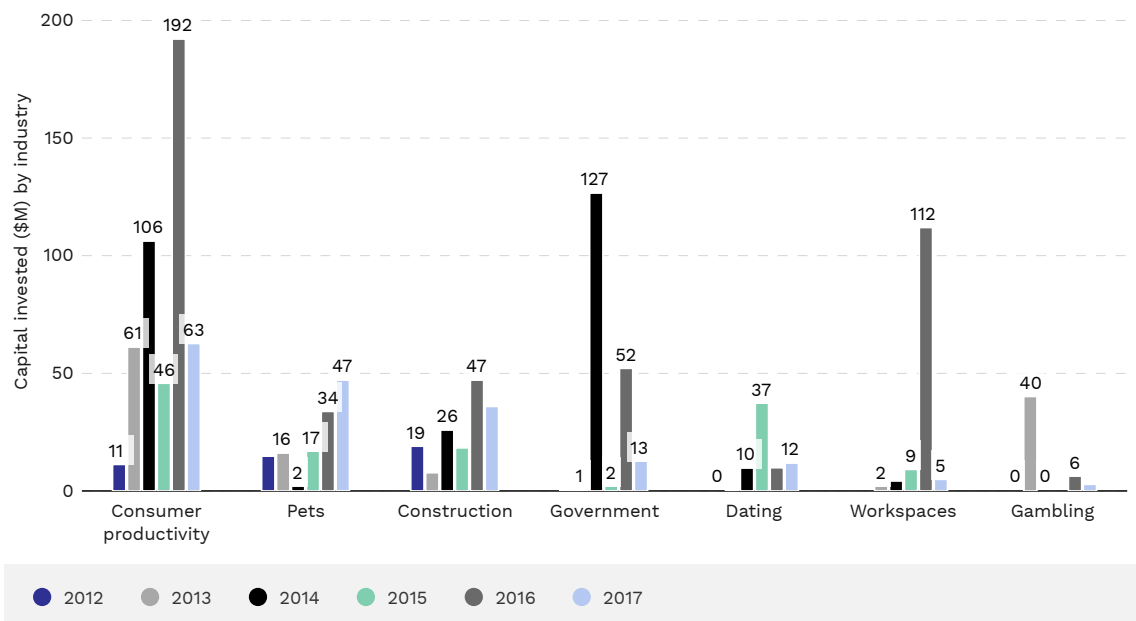
Note: 2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

Source: Dealroom.co

Capital invested \$100-\$500M in 2017



Capital invested <\$100M in 2017



“

Europe has had a strong momentum for several years, with a stable and growing market, highly talented engineers and a blooming tech ecosystem, including startups, professional incubators, and new VCs. Access to early stage capital is maturing fairly well already, and the next priority should be to create a favourable environment for startups' growth and exits to bring more liquidity to the market.

Fleur Pellerin
Korelya Capital

”

5.3

The strength of Europe's tech ecosystem is attractive to a diverse set of investors

Around 2,000 unique investors have participated in at least one investment round in Europe in 2017, up around 4x compared to 2012

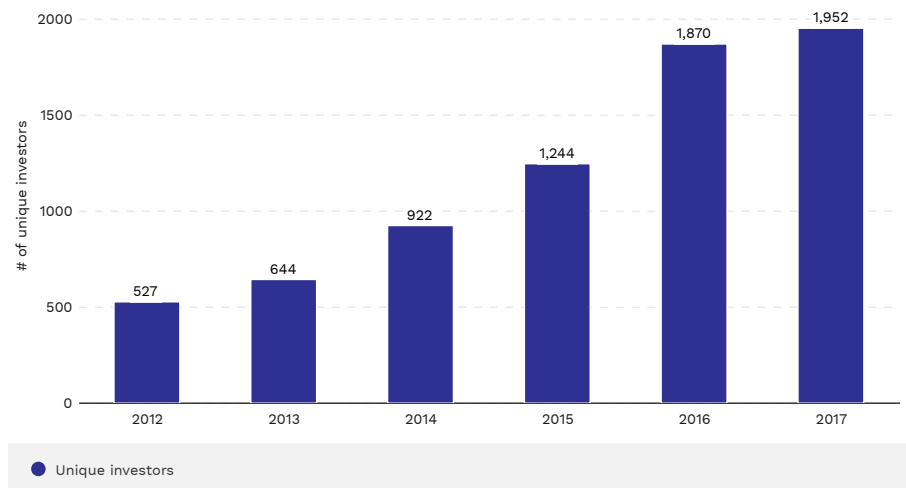
“

For some years, we didn't look to European market investors with hungry eyes because we didn't see the type of investor we could work with, but over the last few years we've seen a number of investors starting to attract more interest because they clearly have good ambitions, and that alone gives me a feeling that there's cause for optimism.

Timo Rein
Pipedrive

”

Number of unique institutions that have participated in at least 1 investment round in Europe per year

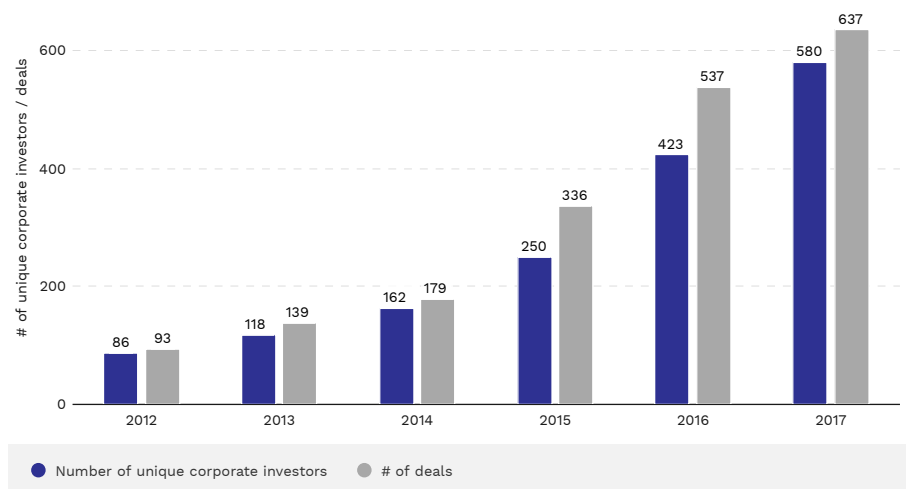


Note: Number of unique investors (incl. investment funds, corporate investors & accelerators, but excl. angel investors) that have participated in at least 1 investment round per year. 2017 annualised based on projection for Q4 on Q3 2017

Source: Dealroom.co

A growing number of corporate investors are investing in European tech companies

Number of unique corporate investors per year and number of rounds involving at least one corporate investor



Note: Unique corporate investor count is based on number of corporate (i.e. non investment fund) investors that have participated in at least 1 round per year. 2017 annualised based on projection for Q4 on Q3 2017

Source: Dealroom.co

The strength of Europe's tech ecosystem is attractive to a diverse set of investors

Investors from around the world are coming to Europe to invest. More than 200 unique US investment funds participated in funding rounds in Europe in 2017

Asian investors are deploying large sums of capital into European tech companies

\$1.8B

invested by Asian investors into European tech companies in 2017 across more than 100 rounds

“

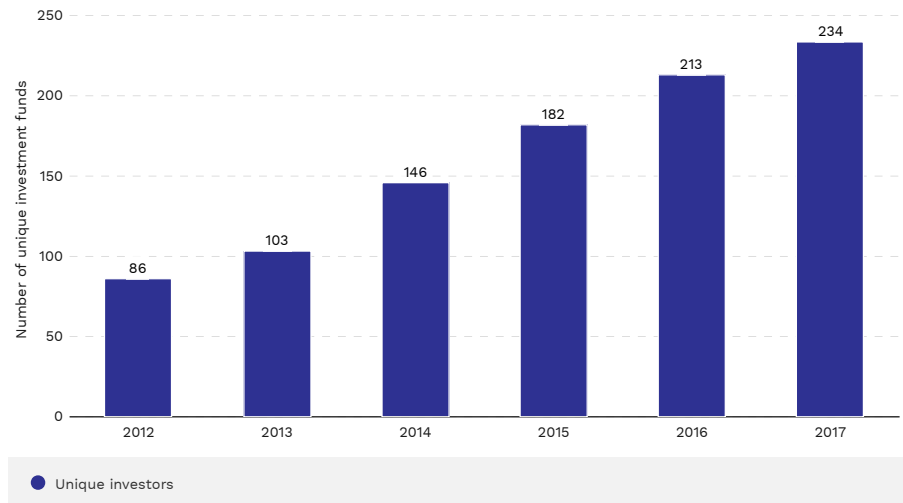
European tech continues to strengthen and diversify geographically, driving not only cross-border investment activity but also increased interest from our VC peers in the US. World class European companies such as MessageBird, Graphcore, Monzo, TransferWise, Automile and Deliveroo have all attracted US investors in 2017, proving that European tech is not only on fire at home but also abroad. This provides an interesting opportunity moving forward for increased collaboration between US and European VCs which, ultimately, continues to provide even greater runway for European founders to build truly global category leading companies from right here at home.

Hiro Tamura
Atomico

”

The level of investment in Europe from Asian investors has grown dramatically in recent years

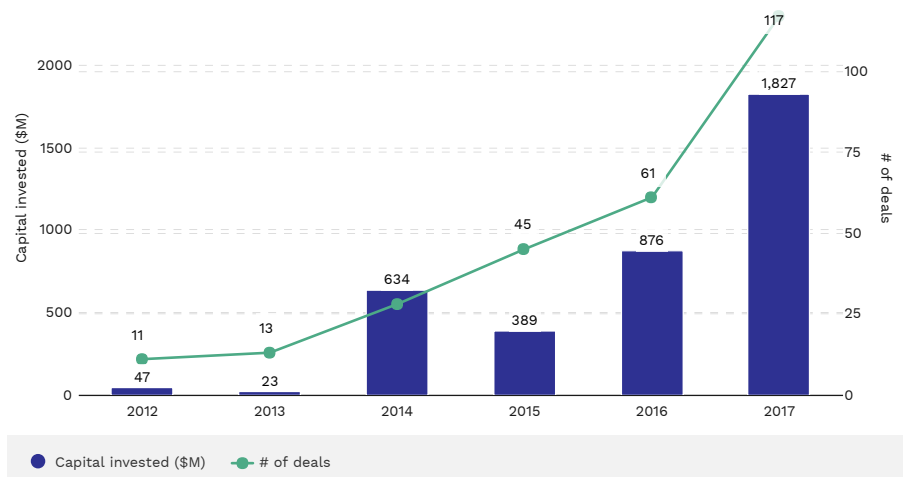
Number of unique US Investment funds that have participated in at least 1 investment round in Europe per year



Note: Number of unique US investment funds (excl. corporate investors & accelerators and angel investors) that have participated in at least 1 investment round per year. 2017 annualised based on projection for Q4 on Q3 2017

Source: Dealroom.co

Capital invested (\$M) by and # of deals involving Asian investors



Source: Dealroom.co

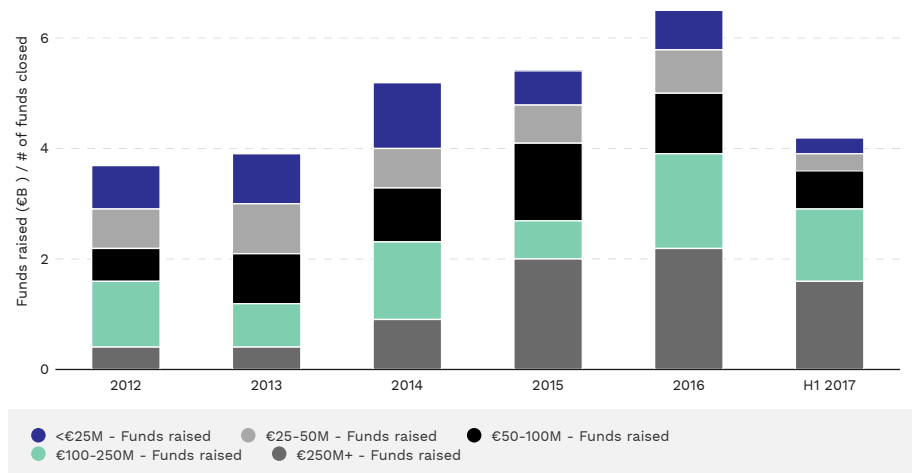
5.4

2017 has seen another strong year of fundraising for European VCs

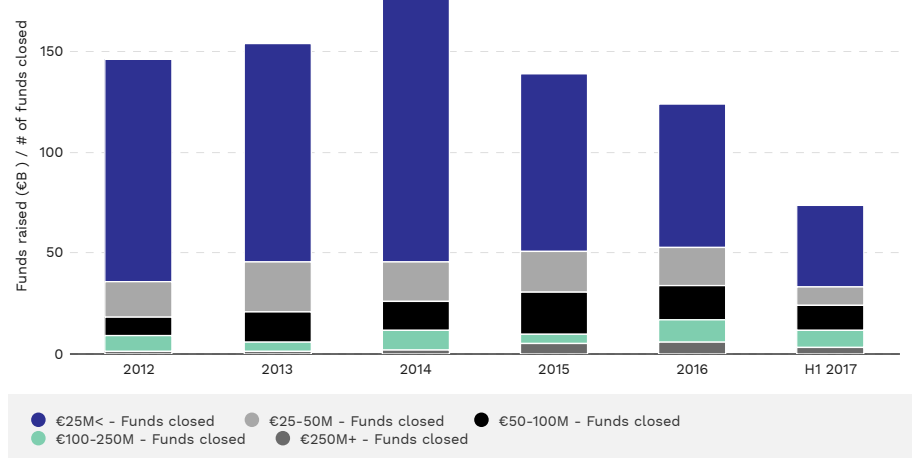
European VCs have raised more than €10.6B across 198 funds since 2016

VC funds raised (€B) and # of VC funds closed per year by fund size

Funds raised



Funds closed



Source: Invest Europe / EDC



“

Global investors are taking notice of the world-class technology companies backed by European venture capital, and the returns being generated. Since 2012, more than 1,800 venture-backed technology companies, born in start-up hubs across the continent, have been exited. The results are clear: last year European VC fundraising hit an all-time high of €6.4 billion

Michael Collins
Invest Europe

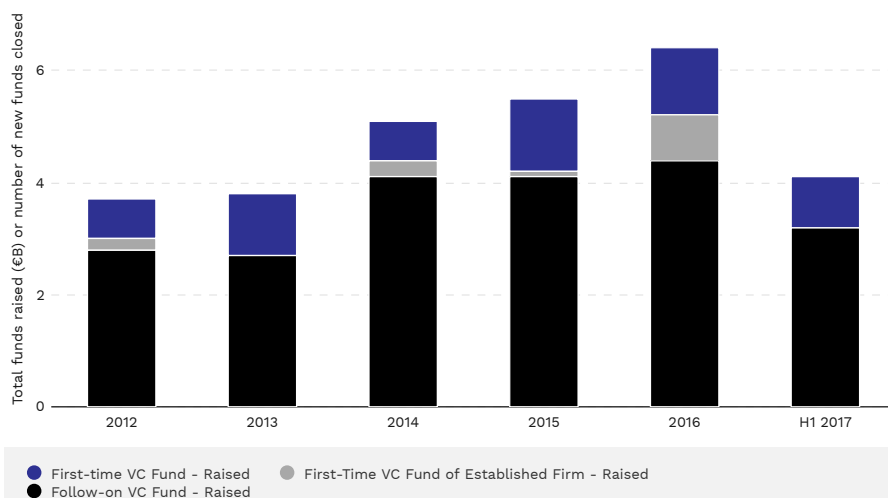
”

2017 has seen another strong year of fundraising for European VCs

First-time funds account for ~25% of funds raised by VCs in Europe and have raised €3B since the start of 2016 across 52 separate funds, although the data shows a slowdown in number of first-time funds being closed

Funds raised (€B) and number of funds closed per year by fund type

Funds raised



Funds closed



Note:

First-Time VC Fund of Established Firm refers to first-time VC funds raised by a firm that may already be operating in a different asset class, such as buyout firms.

Source:

Invest Europe / EDC

Even if the absolute numbers have slowed, Europe continues to see the emergence of first-time VC fund managers targeting a diverse set of geographies and sectors

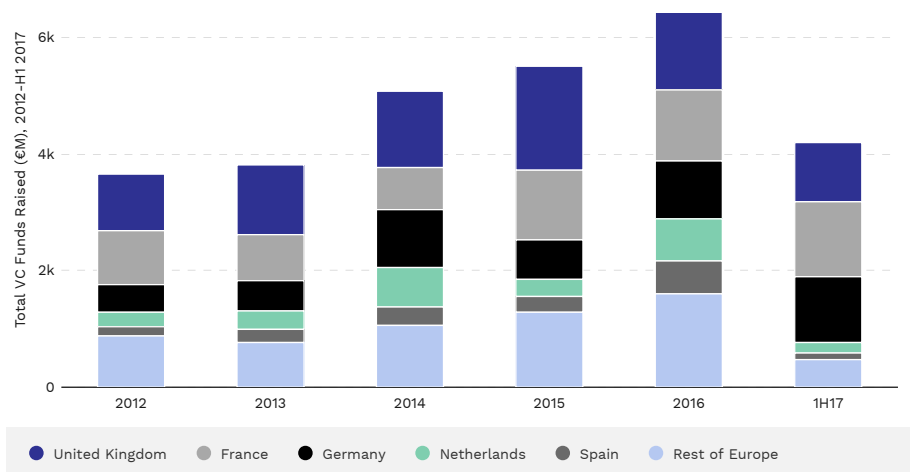
Selected first-time fund launches in Europe in 2017

Firm	Country	Fund size	Focus areas
Apex Ventures	Austria	€10M	Early-stage, Austria
Axeleo Capital	France	€25M	Early-stage, France
BlackFin Tech Fund	France	€100M	Fintech, Insurtech, Regtech
Brighteye Ventures	France	€50M	Education
Crowberry Capital	Iceland	€33M	Early-stage, Iceland
Firstminute Capital	UK	\$85M	Early-stage, Europe
Icebreaker.vc	Finland	€18M	Early-stage, Nordics
Rewird	Switzerland	\$100M	Robotics
Rooks Next Capital	UK	£28M	Media & entertainment
Suir Valley Ventures	Ireland	€20M	Early-stage, Ireland
VentureFriends	Greece	€20M	Early-stage, Greece
Wave Ventures	Finland	€1.2M	Early-stage, Nordics

2017 has seen another strong year of fundraising for European VCs

Funds raised in France, Germany and the UK account for two-thirds of VC funds since the start of 2016, but the past few years have seen large increases in funds raised in new geographies, including Spain, Netherlands and beyond

VC funds raised by country of GP by year



Source: Invest Europe / EDC



“

European countries can take the lead of the digital revolution. In France alone, investments in start-ups tripled over the past three years. More can and must be done to build the digital champions of tomorrow, with investments in deep technologies and while keeping in mind the requirement of digital inclusion.

Mounir Mahjoubi
French Secretary of State in charge of Digital

”

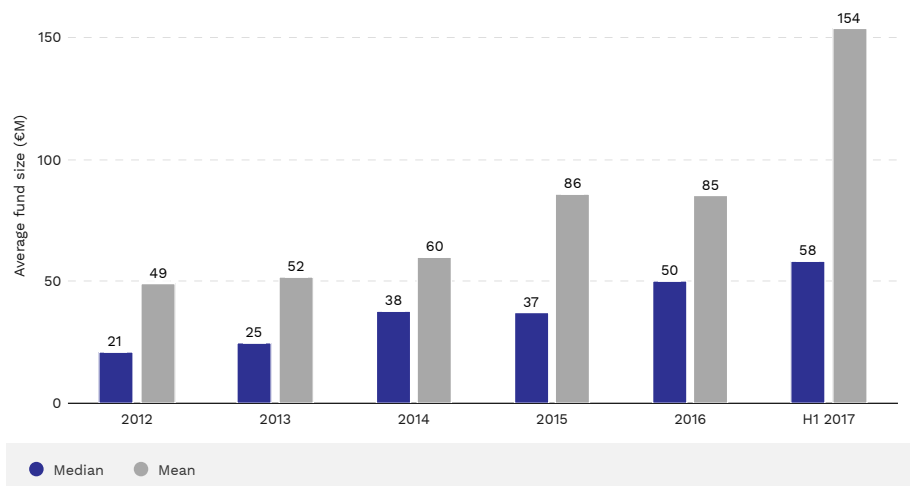
The sum of total funds raised is at an all-time high, but since the number of new funds closed has not been increasing, the average fund size - both in terms of mean and median - has increased significantly

European VC fund sizes have increased significantly

3x

increase in mean VC fund size in Europe since 2012

Median and mean fund size at final closing by year

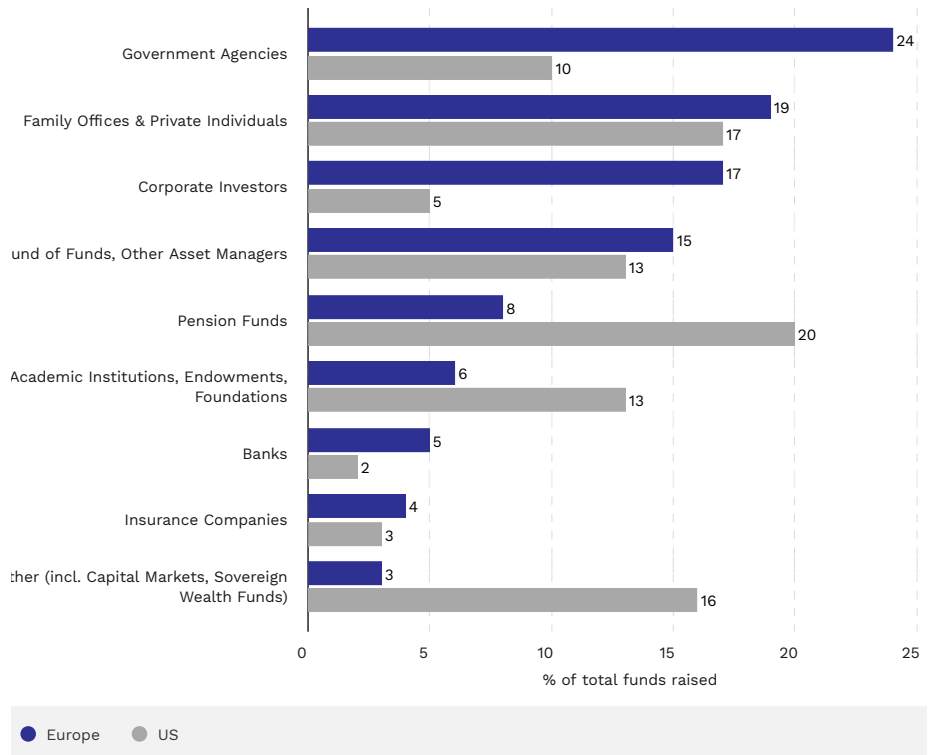


Source: Invest Europe / EDC

There is still work to be done to further diversify the institutional investor base of European VC

The source of funds for European and US VCs differ significantly

VC funds raised by LP type and region

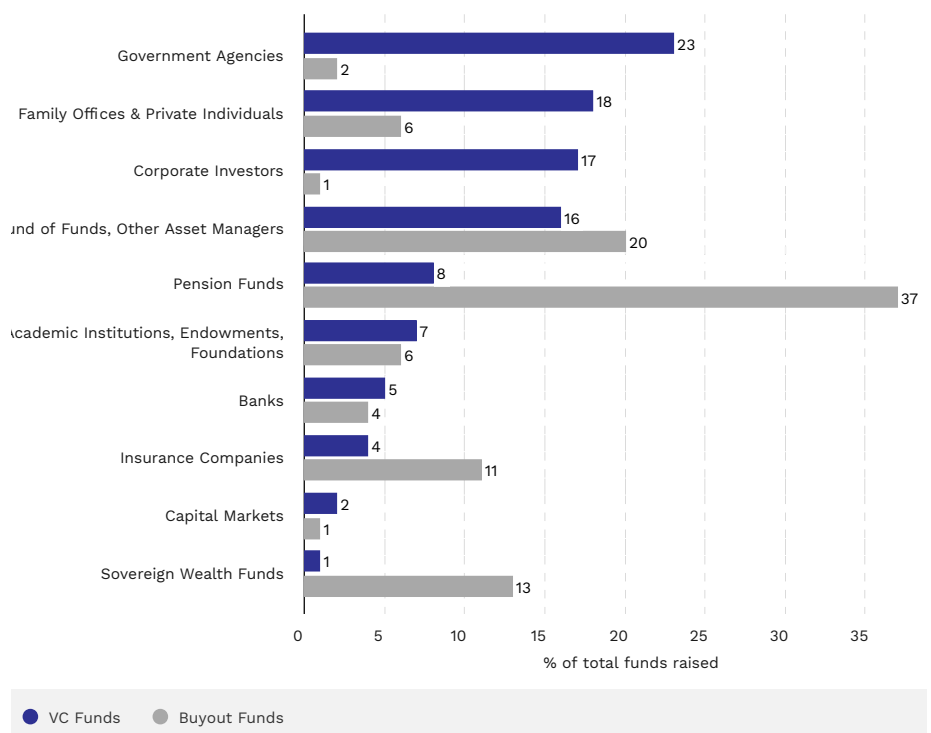


Note:
Europe data based on funds raised between 2012 and 1H 2017. All percentages are only calculated on known LP allocation. Unclassified allocations were extrapolated. US VC LP allocation based on data from Preqin

Source:
Invest Europe / EDC

While pension funds have contributed huge sums to European buyouts, their contribution to VC is still small

Funds raised by fund strategy and LP type



Note:
All percentages are only calculated on known LP allocation. Unclassified allocations were extrapolated

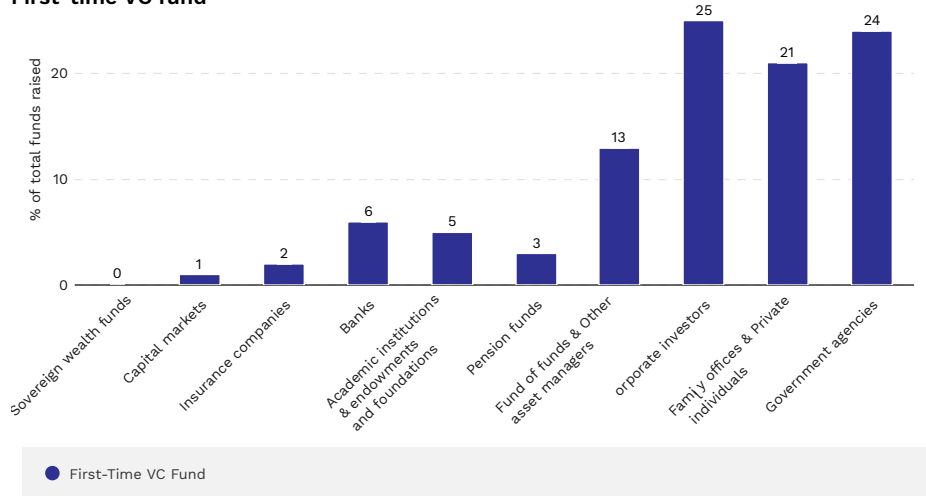
Source:
Invest Europe / EDC

There is still work to be done to further diversify the institutional investor base of European VC

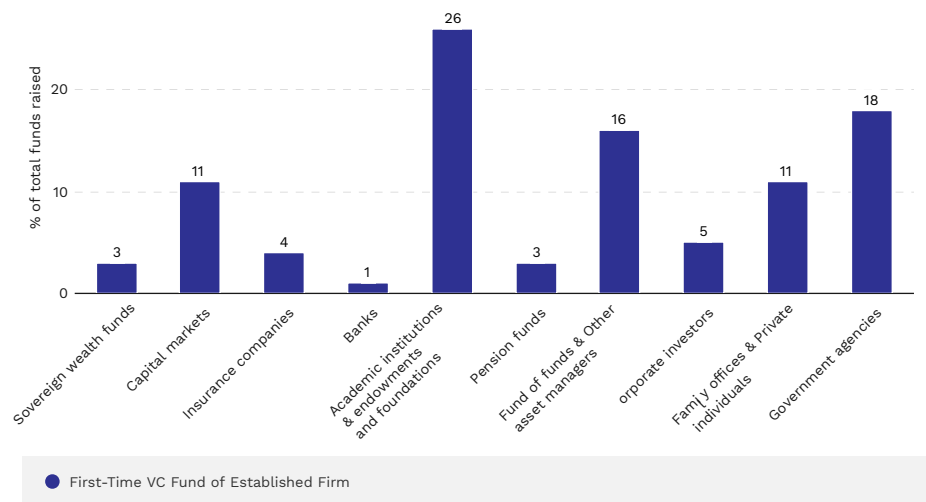
Pensions funds are, however, more important contributors of funding to follow-on VC funds than to first-time funds set up by new VC fund managers

Funds raised by fund type and type of LP

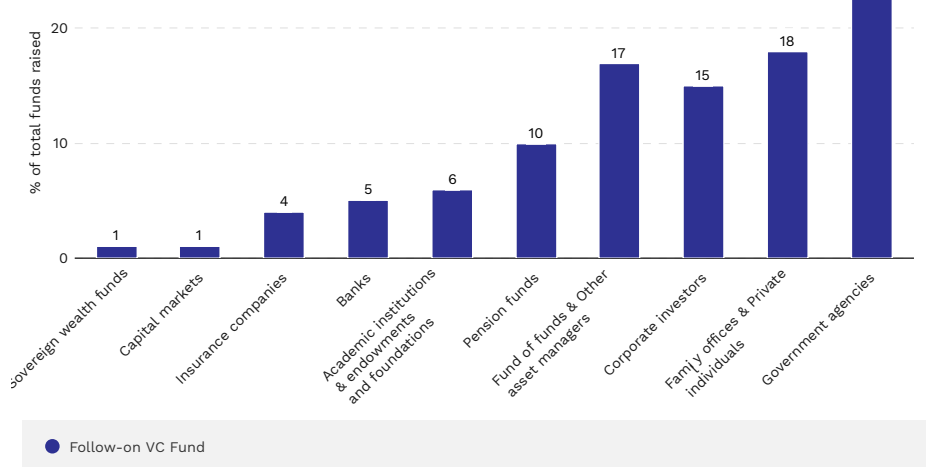
First-time VC fund



First-time VC funds of established firm



Follow-on VC fund



Note: Data based on funds raised between 2012 and 2016. First-Time VC Fund of Established Firm refers to first-time VC funds raised by a firm that may already be operating in a different asset class, such as buyout firms

Source: Invest Europe / EDC

Corporates are an important source of capital for European VCs

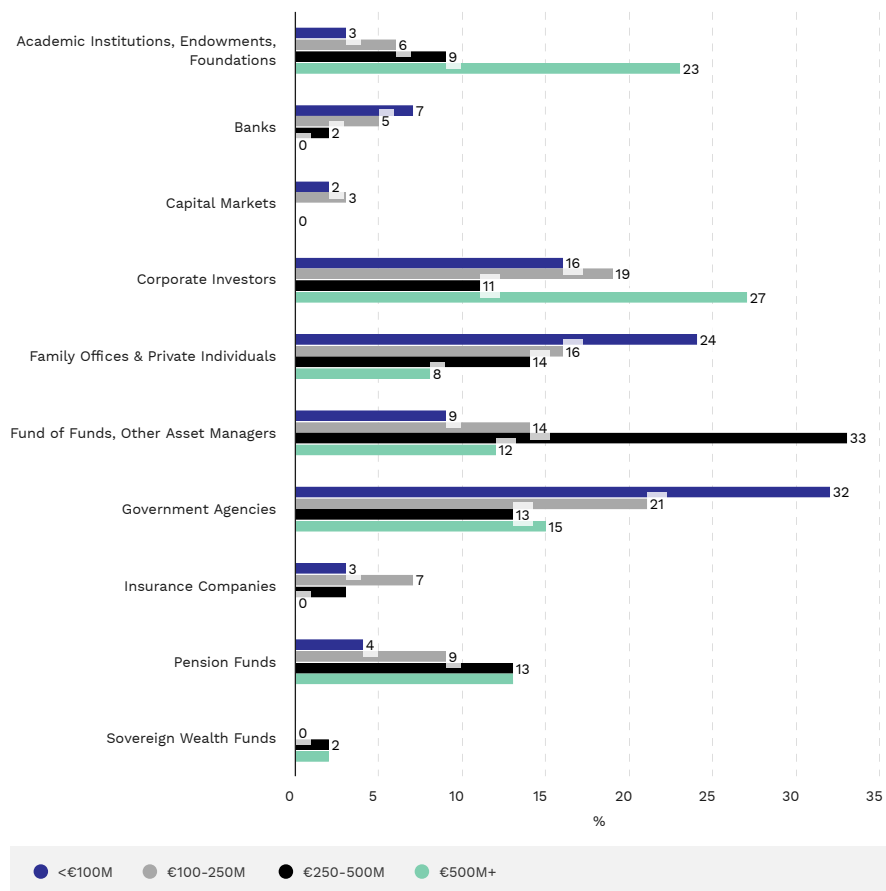
€4.8B

amount invested by corporates into European VCs since 2012, equivalent to 17% of total funds raised during this period

There is still work to be done to further diversify the institutional investor base of European VC

The dependency on governments as a source of capital declines with larger fund size, while the contribution from pension funds and other institutional LP types increases thanks to the ability to deploy larger cheque sizes into the funds

VC funds raised by fund size and LP type



Note: Based on total funds raised between 2012 and 2016. All percentages are only calculated on known LP allocation. Unclassified allocations were extrapolated

Source: Invest Europe

“

The role of public funding in Europe has been important in ensuring sufficient capital availability in the early and growth stages. As evidenced by increasing valuations of marquee companies, Europe has been able to close the gap compared to leading technology ecosystems in the world. This is already bringing more private investment into VC funds and innovative companies, which should be the first and foremost objective of our public funding initiatives.

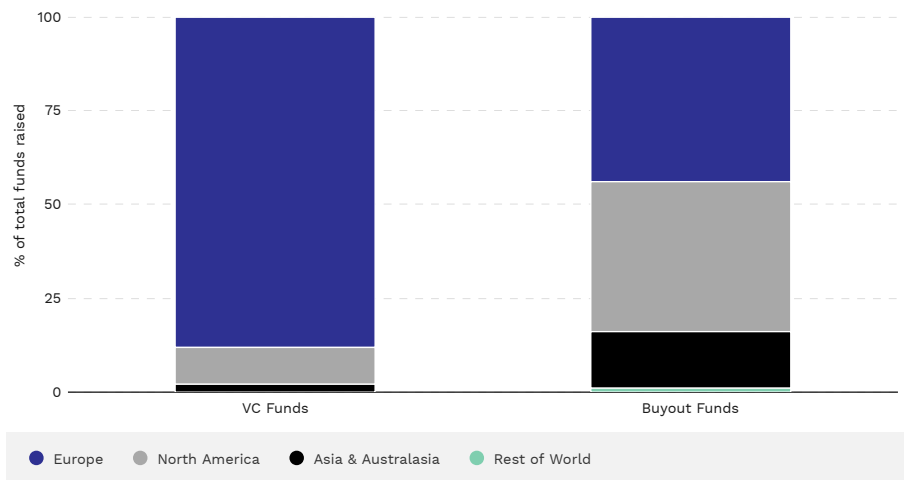
Alex Stubb
European Investment Bank

”

There is still work to be done to further diversify the institutional investor base of European VC

While European buyout funds raise a significant share of capital from international LPs, European VC funds are overwhelmingly raised from within the region

Funds raised by fund strategy and region of LP

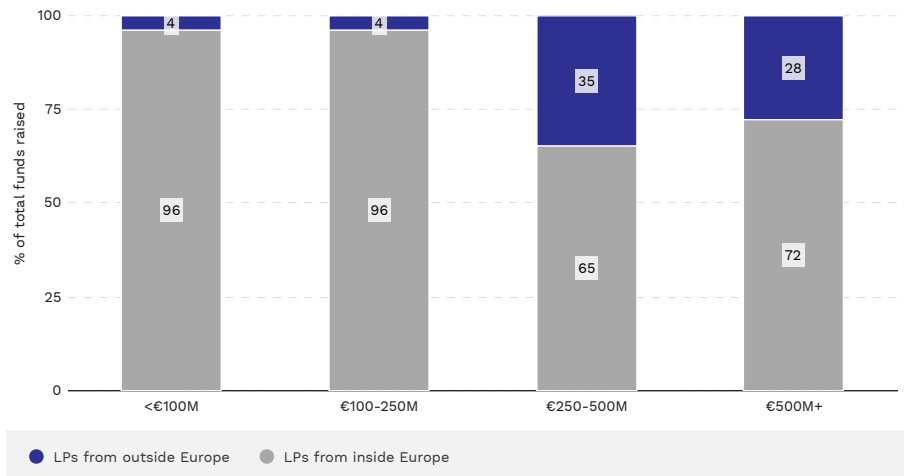


Note: Total funds raised between 2012 and 2016. All percentages are only calculated on known LP allocation. Unclassified allocations were extrapolated

Source: Invest Europe / EDC

This varies, however, depending on the fund size. Larger funds of €250M+ raise a much larger share of capital from outside the region, where investors are typically looking to deploy larger cheque sizes

Funds raised by VC fund size and location of LP, sum of 2012-2016



Note: All percentages are only calculated on known LP allocation. Unclassified allocations were extrapolated

Source: Invest Europe / EDC



“

There is an increased interest from institutional investors in European venture capital, driven by higher expectations of financial returns from European tech and the low interest rate environment, which has turned the attention of these investors towards alternative assets. We have noticed as well an increased interest from non-European institutional investors - notably sovereign wealth funds - in recent years, which reinforces the message that European tech is drawing worldwide attention.

Oscar Farres
European Investment Fund

”

DEEP TECH

Last year, the standout finding from this report was that deep tech was thriving and diversifying across the continent

In 2016, we discovered deep tech firms attracting large amounts of investment and interest from US and Asian tech giants as well as European corporates.

Has Europe been able to maintain its deep tech momentum, have its deep tech roots deepened or broadened across the region and is Europe taking a lead in any particular area of deep tech?

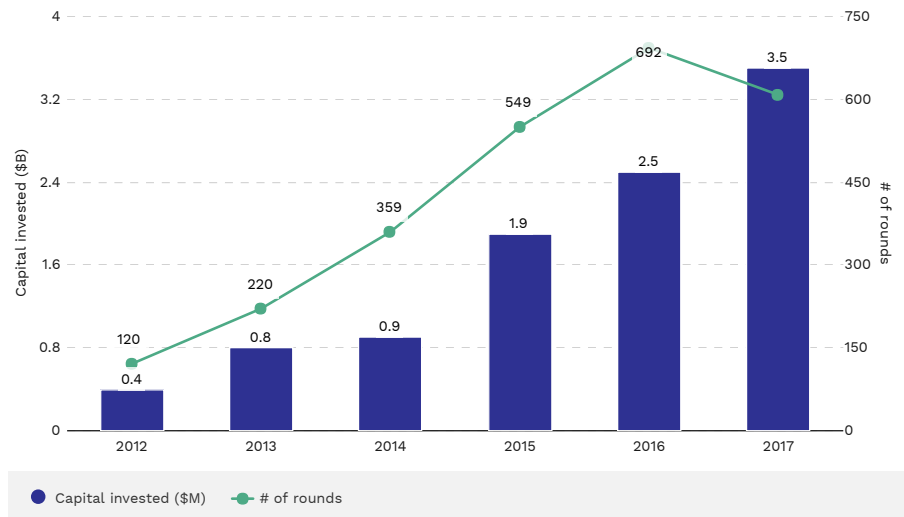
European deep tech continues to attract large investment

Europe is on track for \$3.5B to be invested into deep tech companies in 2017 across more than 600 deals

Note:
2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

Source:
Dealroom.co

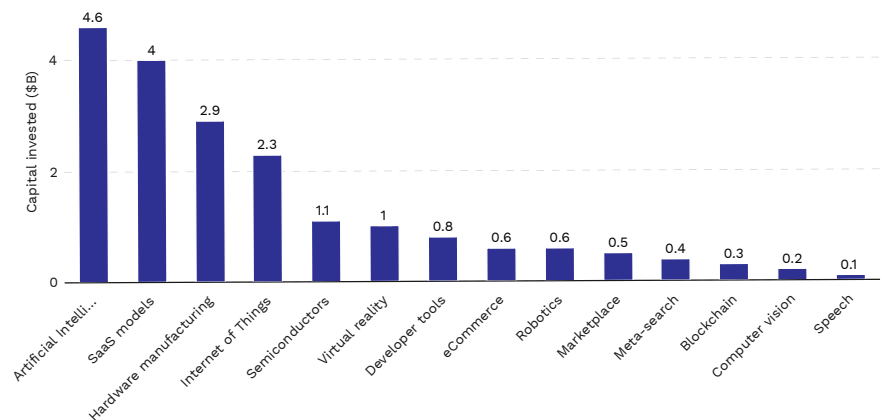
Capital invested (\$B) in and # of deals closed by European deep tech companies



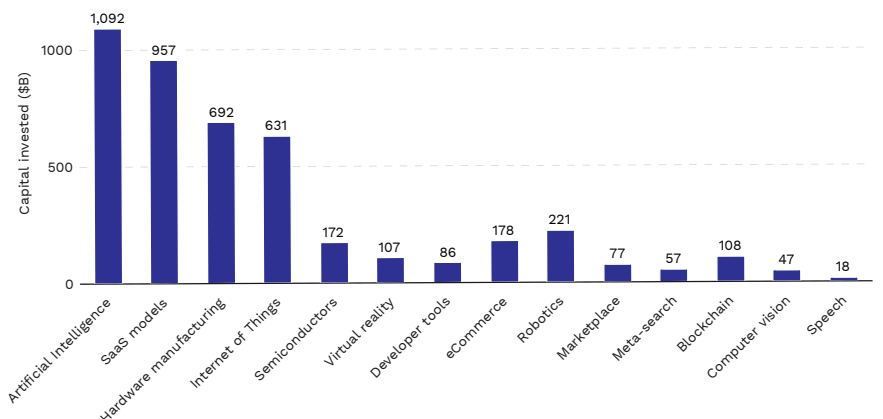
European AI companies have raised more than \$4.6B since 2012 across over 1,000 deals

Capital invested (\$B) and # of deals by deep tech sub-category

Capital invested



of deals



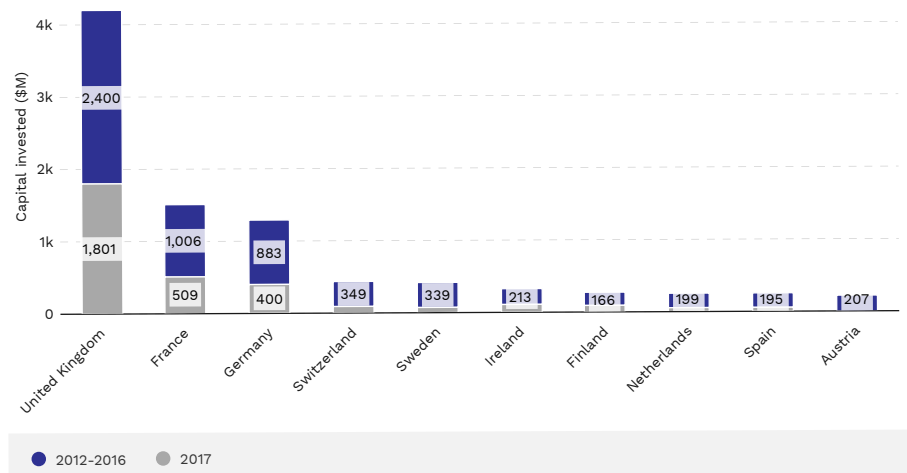
Source:
Dealroom.co

European deep tech continues to attract large investment

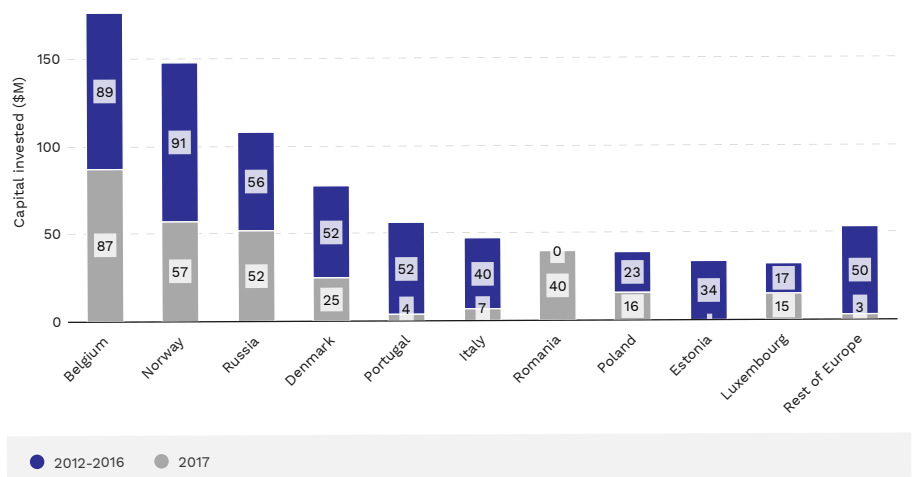
Deep tech companies based in the UK, France and Germany lead the way in attracting capital investment

Capital invested (\$B) in European deep tech companies by country

Top 10 countries



Countries 11-20 and the rest of Europe



Note:
2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

Source:
Dealroom.co

“

The next stage of the Information Revolution is underway, made possible by rapid technological progress that is changing every industry and creating new ones. Europe is particularly well placed to take advantage. Last year, this report highlighted the growing strength of deep tech in Europe. This was no surprise to us at SoftBank. In the last 18 months alone we invested in some of Europe's most exciting deep tech companies, ARM and Improbable.

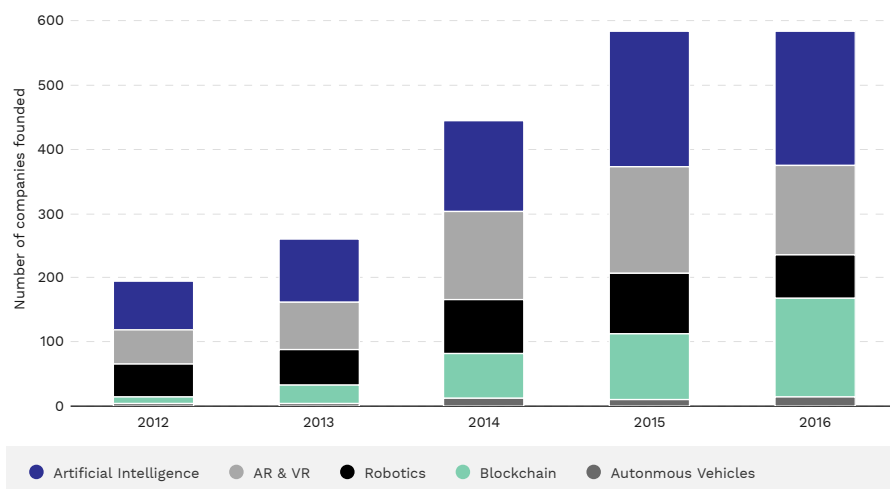
David Thevenon
SoftBank

”

European deep tech continues to attract large investment

European entrepreneurs continue to form deep tech companies at very high levels, led by companies focused on AI

Number of European deep tech companies founded per category per year



Note: There is typically a lag between a company being founded and it being recognised in private company databases. As such, more recent cohorts likely under-represent actual company formation.

Source: Tracxn

Europe's most promising deep tech companies are raising large rounds and actively choosing to stay independent to continue to build and take on global opportunities

Note: There is typically a lag between a company being founded and it being recognised in private company databases. As such, more recent cohorts likely under-represent actual company formation.

Source: Tracxn

Selected investment rounds raised by European deep tech companies in 2017

Company	Round size	Lead investor(s)	Round date
Graphcore	\$50M	Sequoia Capital	Nov 2017
Ada Health	\$47M	Access Industries	Oct 2017
MessageBird	\$60M	Accel, Atomico	Oct 2017
Shift Technology	\$28M	Accel	Oct 2017
FiveAI	\$35M	Lakestar	Sep 2017
Lilium	\$90M	Tencent	Sep 2017
Sophia Genetics	\$30M	Balderton	Sep 2017
Improbable	\$500M	Softbank Vision Fund	Jun 2017
Unity	\$400M	Silver Lake	May 2017
Babylon Health	\$60M	Kinnevik	Apr 2017



“

European entrepreneurs are catalysing the development of AI technology and the proliferation of AI-powered applications. As AI reaches an inflection point in adoption, early-stage AI companies will empower buyers that have the vision to embrace them and disrupt those that do not. With 900 AI startups (70% of the US total), world-class talent (a quarter of the world's top 50 universities) and a flourishing ecosystem for entrepreneurship, Europe has much to contribute as we move to a world that is AI-first.

David Kelnar
MMC Ventures

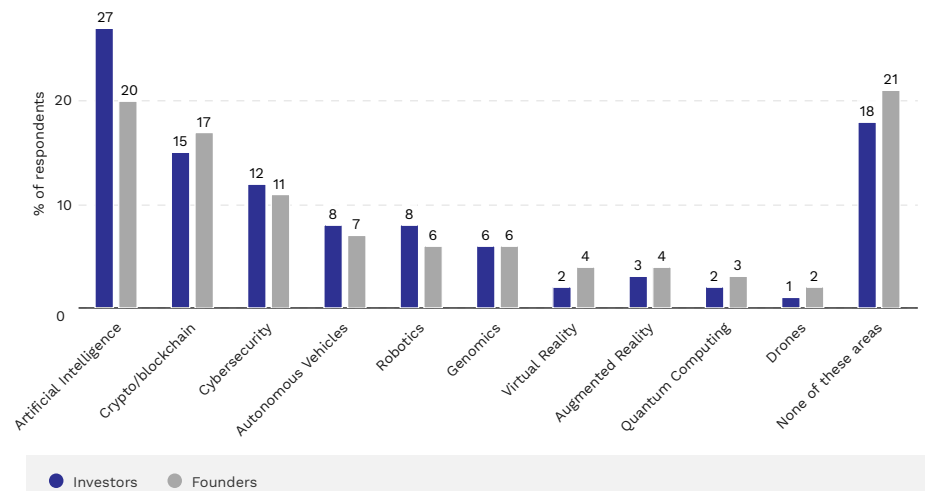
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AI & crypto are seen as major opportunities for European tech leadership on the global stage

AI & blockchain are viewed as the areas where Europe is best-positioned to attain world-leading status

In which one area of technology is Europe best positioned to become a world leader over the next five years?

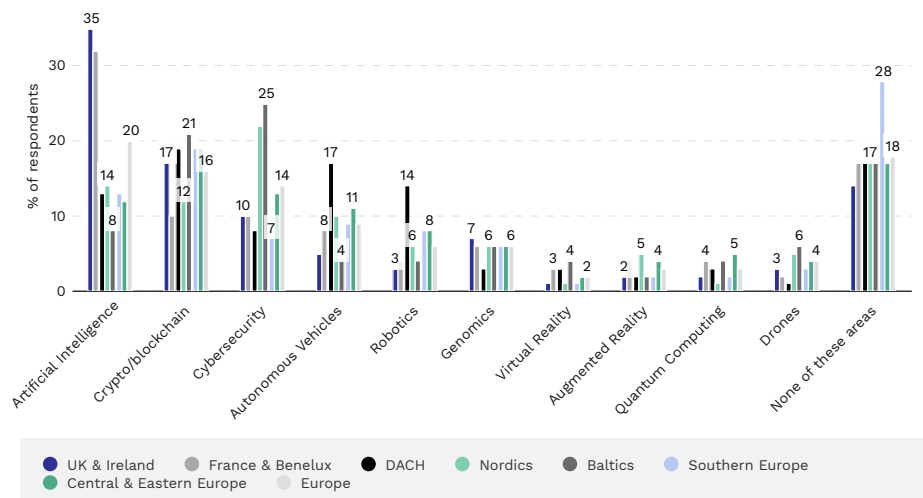
Occupation



Note: Numbers may not add to 100 due to rounding

Source: The State of European Tech Survey 2017

Geography



Note: Numbers may not add to 100 due to rounding

Source: The State of European Tech Survey 2017

AI & crypto are seen as major opportunities for European tech leadership on the global stage

The UK and Germany are viewed as the two countries best positioned within Europe to build world-leading positions in key deep tech fields

Most cited responses for question: which European country do you think is best placed to capture this opportunity?

Deep tech field	1	2	3
Artificial Intelligence	United Kingdom	France	Germany
Crypto/blockchain	United Kingdom	Switzerland	Estonia
Cybersecurity	Germany	United Kingdom	Estonia
Autonomous Vehicles	Germany	Sweden	Norway
Robotics	Germany	United Kingdom	No single country
Genomics	Germany	United Kingdom	Switzerland
Virtual Reality	Germany	Finland	United Kingdom
Augmented Reality	Germany	United Kingdom	Sweden
Quantum Computing	Germany	United Kingdom	Switzerland
Drones	France	United Kingdom	Germany

Source: The State of European Tech Survey 2017



“

The blockchain boom certainly is coming - and London is in a great position to capitalise on it. The bristling tech scene in London combines strong support for innovation and new startups with a magnetism for top tech talent from around the globe. There are several prestigious universities here which are and will be undertaking cutting edge academic research in the blockchain space.

Angus Maidment & Alastair Band

Blockchain Beginners London (Meetup group)

”



“

Berlin is, or at least used to be, the single place in Europe that was still cheap, a bit edgy, married to the slightly anarchist outlook of crypto. It's a great place for people who want to change things to establish an office and work from here. London is much more in line with the establishment, they still want to disrupt but not really.

Jutta Steiner

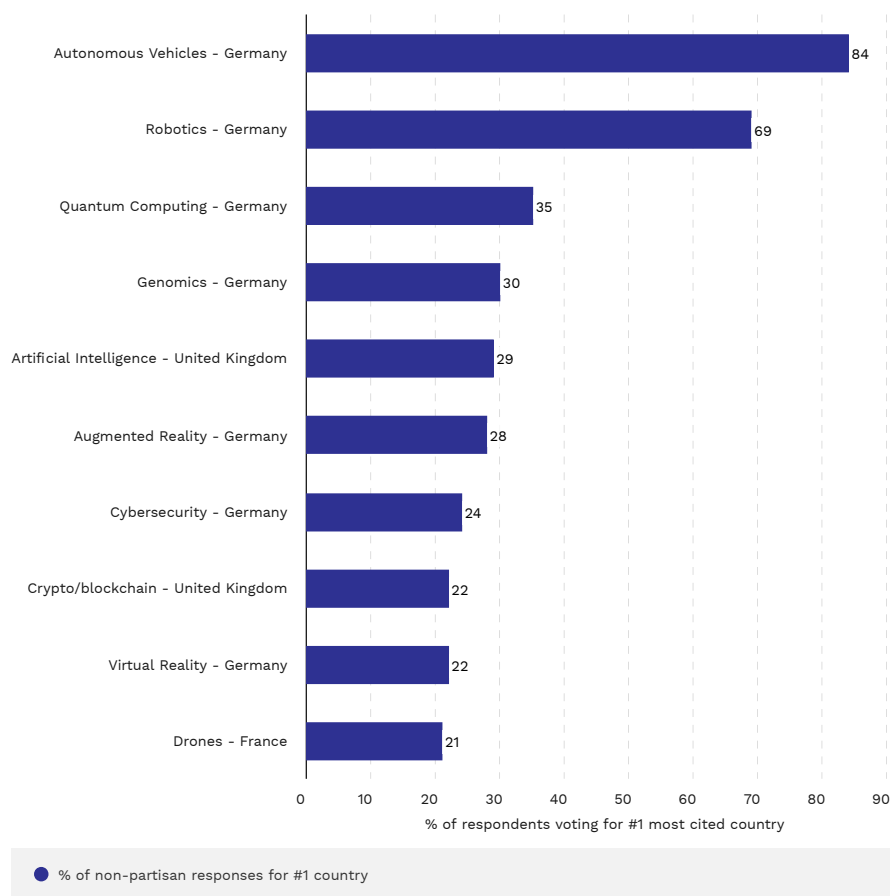
Parity Technologies

”

AI & crypto are seen as major opportunities for European tech leadership on the global stage

Germany is perceived to be a clear leader amongst European countries in the race to build a world-leading position in autonomous vehicles and robotics, but in other fields there is a much greater distribution of votes between different countries

Which one European country do you think is best placed to capture this opportunity?



Note: Ranking based on votes from respondents choosing a country home than their home country only

Source: The State of European Tech Survey 2017



“

There is a density of machine learning talent in London that rivals even the Valley. Every year UK universities produce a roster of world-class machine learning engineers, coming straight out of the most innovative labs. To maintain the momentum in European AI, we'll need to keep up that flow of expert and ambitious engineers, both by ensuring continued investment in higher education, and by guaranteeing that engineers are supported through accelerators once they graduate.

Barnaby Hussey-Yeo
Cleo

”

Europe is home to the world's leading AI research community

Europe is home to the largest share of the top 100 AI research institutions worldwide

European organizations in the Top 100 ranked organizations by most-cited AI-related research papers

Global rank	Institution	Country
4	CNRS	France
16	Universite Paris Saclay	France
17	Institut National de Recherche en Informatique et en Automatique	France
18	Imperial College London	United Kingdom
20	University of Oxford	United Kingdom
22	ETH Zurich	Switzerland
25	University College London	United Kingdom
29	University of Cambridge	United Kingdom
43	King's College London	United Kingdom
45	Technische Universitat Munchen	Germany
46	University of Edinburgh	United Kingdom
48	University of Granada	Spain
49	KU Leuven	Belgium
51	Vienna University of Technology	Austria
53	University of Birmingham	United Kingdom
56	University of Sheffield	United Kingdom
58	CNR	Italy
66	EPF Lausanne	Switzerland
69	Ghent University	Belgium
73	PSL Research University	France
74	Czestochowa University of Technology	Poland
78	University of Southampton	United Kingdom
79	University of Amsterdam	Netherlands
80	University of Rome La Sapienza	Italy
82	Erciyes University	Turkey
83	Universitat Politecnica de Catalunya	Spain
85	Delft University of Technology	Netherlands
88	University of Trento	Italy
90	University of Manchester	United Kingdom
94	University of Freiburg	Germany
96	Eindhoven University of Technology	Netherlands
99	Universidade de Lisboa	Portugal

Source: The Nikkei & Elsevier

Europe accounts for largest share of top 100 AI research institutions worldwide

32

research institutions in the global top 100 for AI-related research paper citations vs 30 from the US and 15 from China

Europe is home to the world's leading AI research community



“

European research in deep tech is at a crossroads, and we strongly believe that greater collaboration between public and private bodies is key to ensure it continues to thrive. Europe is currently taking action to enable this by developing a framework for public-private partnerships, which is a step in the right direction. Facebook Artificial Intelligence Research (FAIR) Paris is an example of this approach in action. We hope that FAIR, in close cooperation with public universities and institutes such as INRIA or Pierre et Marie Curie University, proves how impactful and effective this public-private cooperation can be. Our model has allowed us to grow in two years from five to forty researchers from across Europe, despite a very selective hiring process, and will help us continue to develop our FAIR lab in Paris.

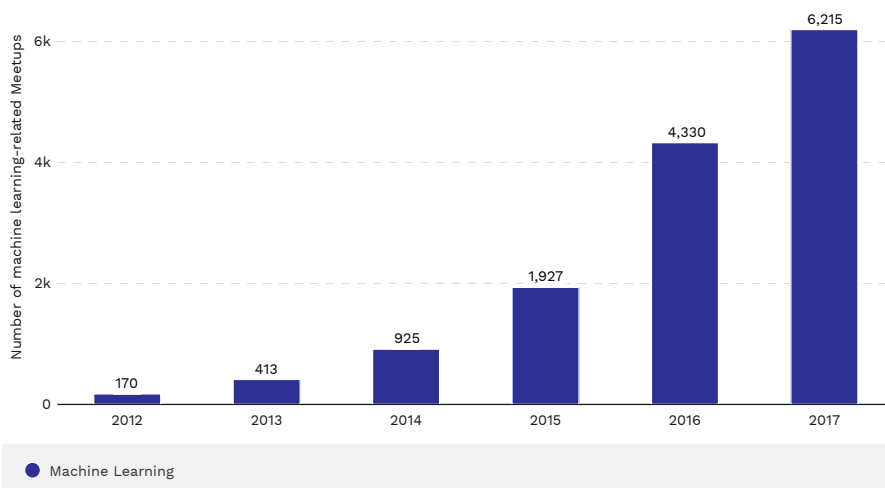
Antoine Bordes

Facebook Artificial Intelligence Research

”

There has been an explosion of events to bring together Europe's AI community

Number of machine learning-related Meetup events by year



Note: 2017 data annualised based on data to 30 September 2017

Source: Meetup

Europe is home to the world's leading AI research community

London and Paris are Europe's two leading hubs for AI talent

Top 15 European hubs of AI talent

Top cities by number of LinkedIn members with AI skills

Rank	Cities with most members	Change in rank versus 2016
1	London, United Kingdom	No change
2	Paris, France	No change
3	Madrid, Spain	No change
4	Munich, Germany	1
5	Berlin, Germany	2
6	Zurich, Switzerland	No change
7	Barcelona, Spain	-3
8	Amsterdam, Netherlands	No change
9	Copenhagen, Denmark	No change
10	Frankfurt, Germany	1
11	Geneva, Switzerland	New to Top 15
12	Istanbul, Turkey	No change
13	Cologne, Germany	3
14	Stockholm, Sweden	-5
15	Milan, Italy	No change

Top cities by density of members with AI skills versus all LinkedIn members

Rank (density)	Cities with highest number of members with skill per member in region	Change in rank versus 2016 (density)
1	Berlin, Germany	No change
2	Munich, Germany	No change
3	Zurich, Switzerland	No change
4	Stockholm, Sweden	No change
5	Frankfurt, Germany	No change
6	Istanbul, Turkey	No change
7	Warsaw, Poland	New to Top 15
8	Copenhagen, Denmark	-1
9	London, United Kingdom	-1
10	Paris, France	No change
11	Barcelona, Spain	-2
12	Amsterdam, Netherlands	No change
13	The Hague, Netherlands	-2
14	Cologne, Germany	1
15	Antwerp, Belgium	-2

Note: Cities with >450k members only so excludes cities such as Cambridge and Oxford. Cambridge would be 16th in absolute terms and first by density. Oxford would be 28th and fourth by density.

Source: LinkedIn

Europe is home to the world's leading AI research community

The war for AI talent has seen Python rise to number three most in-demand programming language in Europe

Top 10 most in-demand technologies in Europe

Rank	Technology
1	Javascript
2	Java
3	Python
4	C#
5	.Net
6	ReactJS
7	Linux
8	PHP
9	C++
10	CSS

Source: Stack Overflow

Top 10 most in-demand programming languages in Europe, as sought by employers

Top 10 most in-demand technical roles at technology companies in the UK and France

Rank	UK	France
1	Backend Engineer	Full Stack Engineer
2	Frontend Engineer	Backend Engineer
3	Full Stack Engineer	Frontend Engineer
4	Software Engineering	Mobile Engineer
5	Mobile Engineer	Software Engineer
6	DevOps Engineer	Data Scientist
7	QA/Test Engineer	Product Manager
8	Product Manager	DevOps Engineer
9	Data Scientist	UX Designer
10	Engineering Manager	UI Designer

Source: Hired



Photo: Sami Heiskanen

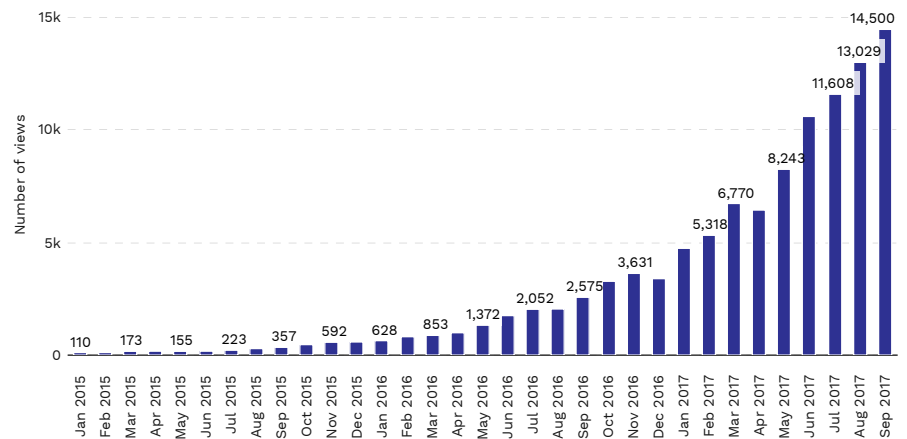
6.4

Europe is well-positioned to play a key role in crypto space

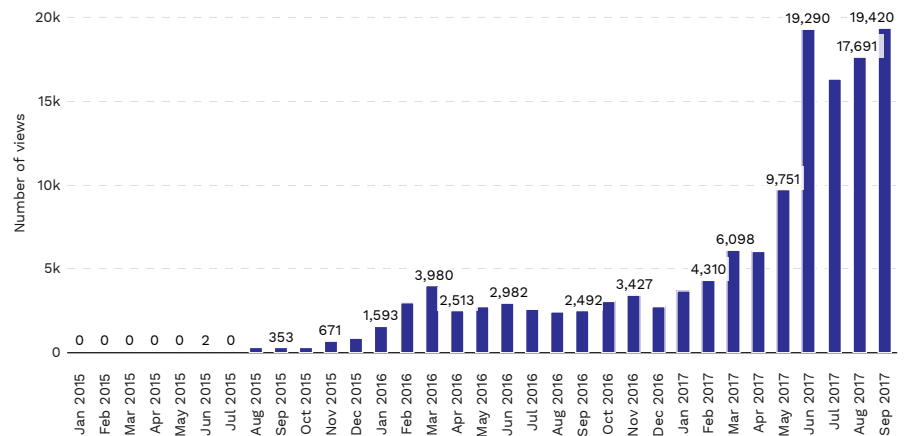
There has been an explosion of European developer engagement with cryptocurrencies, most notably on Ethereum-related topics

Number of views of blockchain-related question tags on Stack Overflow by topic

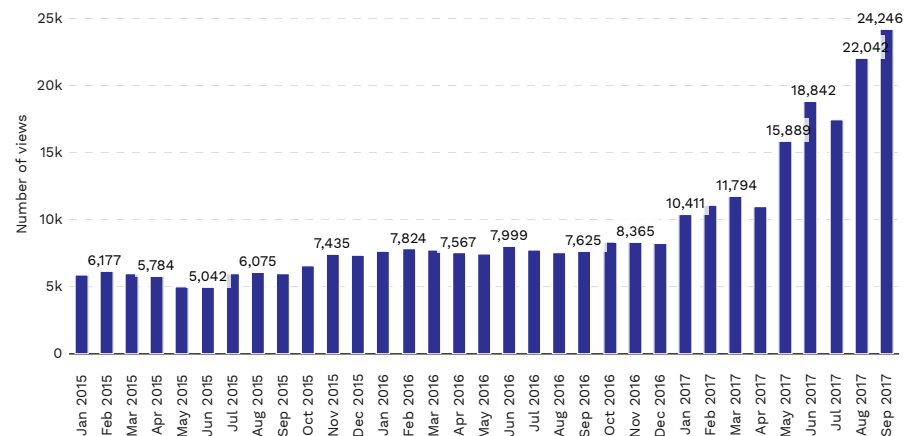
Blockchain



Ethereum



Bitcoin



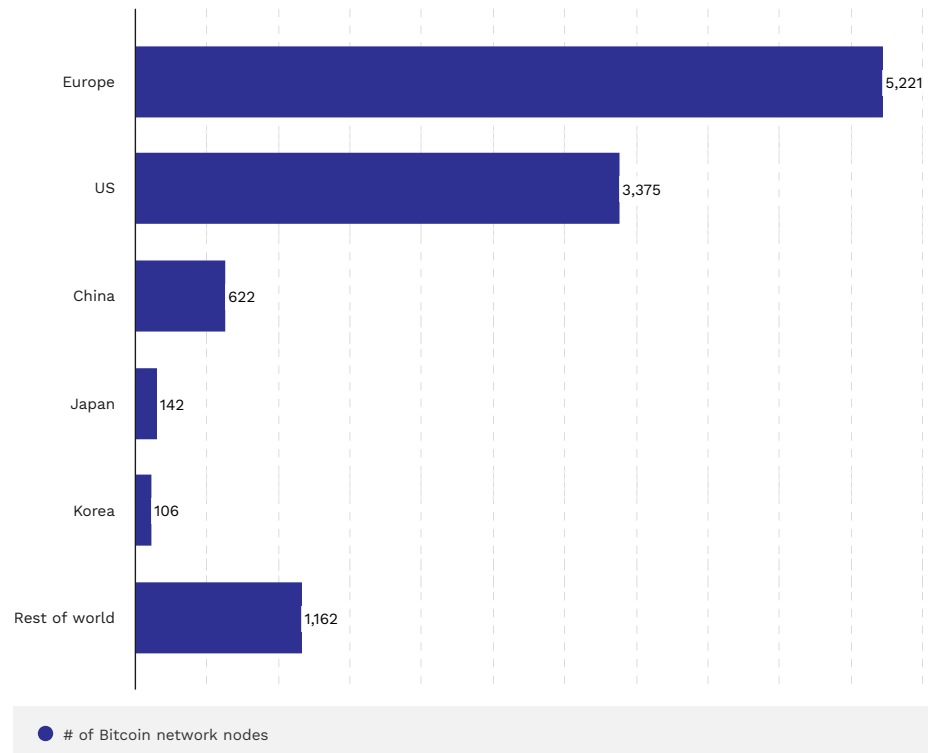
● Bitcoin

Source:
Stack Overflow

Europe is well-positioned to play a key role in crypto space

Europe is the largest source of reachable nodes on the Bitcoin network

Global distribution of reachable Bitcoin nodes by region



Note:
Data as of 31 October 2017

Source:
Bitnodes

“

When it comes to Europe, the cultural and economic diversity, as well as a world class heritage in adjacent sectors like gaming and asset management coupled with a large tech talent pool, play strongly in favour of driving growth in this space. We are seeing a vibrant crypto ecosystems developing in places like Berlin, Paris, Lisbon, Barcelona, Eastern Europe, and the Baltics.

Stefano Bernardi & Yannick Roux
Token Economy

”



“

Europe has traditional strength in cryptography, with key figures from the International Association for Cryptologic Research, being from European Academic institutions, and industry clusters relying on cryptographic expertise in France, Denmark, Estonia, Belgium and Switzerland. The designers of both US standard hash function and block cipher are European – a testament to this expertise (AES and SHA3). Europe is especially strong in symmetric cryptography and embedded systems. Ironically, the depth of expertise around crypto in Europe is associated historically with the US export control regimes on cryptography.

George Danezis
University College London

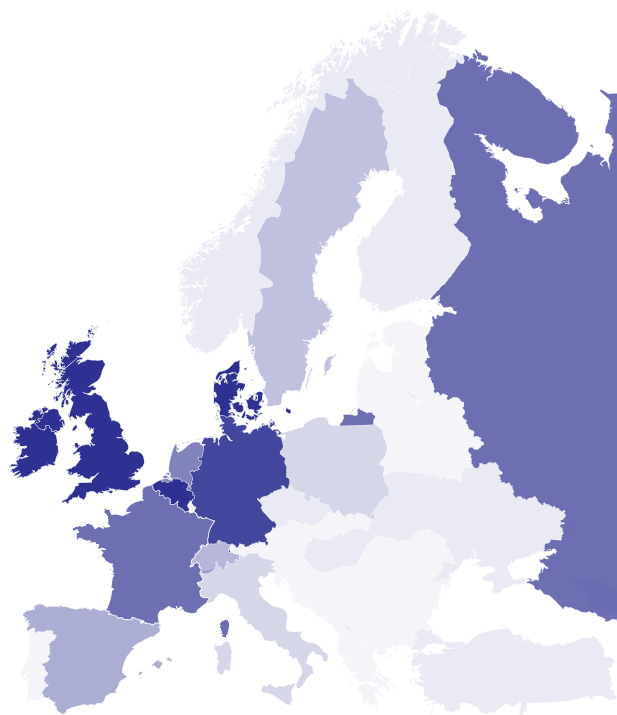
”

Europe is well-positioned to play a key role in crypto space

The UK, Germany and Russia are the most active blockchain developers on GitHub

Number of blockchain development projects by country

01	United Kingdom	1,674
02	Germany	1,307
03	Russia	721
04	France	679
05	Netherlands	554
06	Spain	383
07	Switzerland	338
08	Sweden	306
09	Italy	276
10	Poland	273
11	Ukraine	201
12	Czech Republic	169
13	Finland	157
14	Ireland	133
15	Denmark	129
16	Greece	125
17	Norway	119
18	Turkey	97
19	Hungary	89
20	Portugal	86
21	Bulgaria	70
22	Slovenia	69
23	Romania	65
24	Lithuania	48
25	Slovakia	40
26	Belarus	40
27	Luxembourg	34
28	Estonia	25
29	Croatia	20
30	Latvia	16
31	Moldova	13
32	Iceland	9



European developers are hugely actively in driving blockchain development

8,265

active blockchain projects in Europe (versus 9,565 in US), according to Deloitte analysis of GitHub data

Note: Analysis is presented for GitHub projects for which geographical information is available

Source: Deloitte analysis of GH Torrent data and GitHub API data

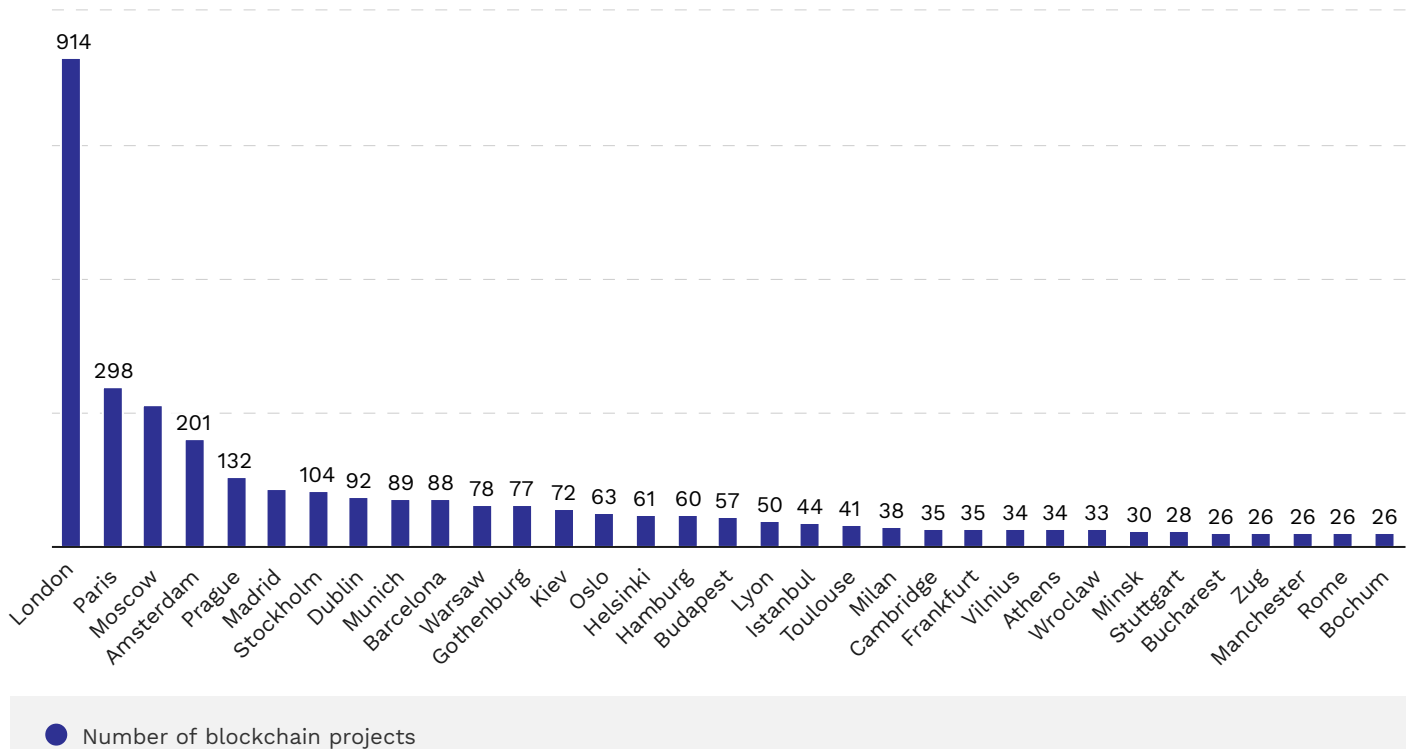


Photo: Jussi Hellsten

Europe is well-positioned to play a key role in crypto space

London, Paris and Moscow are the primary centres of European blockchain development

Top 30 European cities for blockchain development



Note: Analysis is presented for GitHub projects for which geographic information was available. Berlin is notably absent and is likely due to the absence of city-level information for 1,069 projects in Germany

Source: Deloitte analysis of GH Torrent data and GitHub API data



“

Given how people in Europe look at things like data protection, there's a stronger sense of urgency here than somewhere like the US to find solutions. But for entrepreneurs it's really hard to run a business in this space. There's currently no certainty, neither for the entrepreneurs nor the establishment, on what we can do and could do. There are things like regulatory sandboxes that people try but I am not convinced these will work, since ultimately you need to get out of the sandbox and will then face the same problems again. It's important that policymakers are really understanding what this technology is and do not regulate too early, giving startups a certain certainty that they would not get punished for what they are doing.

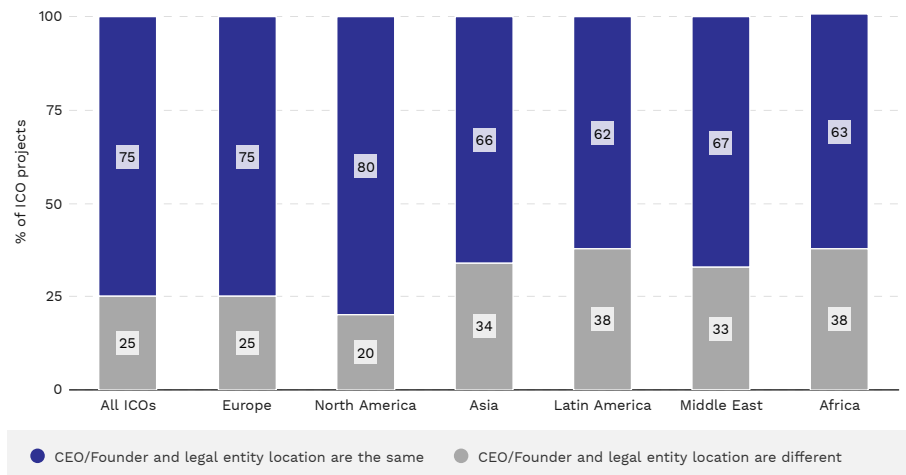
Jutta Steiner
Parity Technologies

”

Europe leads the race to tokenize assets and the ICO fundraising boom

Differences in national regulatory frameworks mean that one in four ICO projects is legally registered in a different county to that of its CEO/Founder

Share of ICO projects where location of legal entity is different to location of CEO/Founder

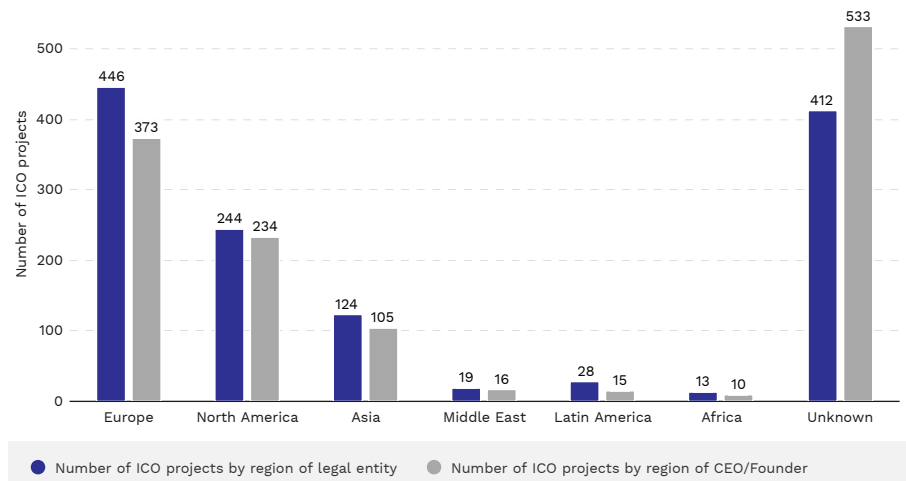


Note: Geographical data sourced by TokenData from ICO websites, white papers and social media. Data is based on ICO projects where the legal entity and CEO/Founder location are both known

Source: TokenData

There are more ICO projects coming from Europe-based entities and European founders than any other region

Number of ICO projects by region of legal entity versus region of CEO/Founder



Note: Geographical data sourced by TokenData from ICO websites, white papers and social media. Unknown captures all ICOs where the region of the legal entity or of the CEO/Founder is not known

Source: TokenData

“

Looking beyond the exponential increase in capital and cryptocurrency assets in 2017, we see a pattern of geographical diversity between ICO founding teams and also within the teams themselves. If the future of business ideas lies in decentralisation, then decentralised founding teams will be a key aspect of it.

Ricky Tan
Token Data

”

Europe leads the race to tokenize assets and the ICO fundraising boom

While entities registered in Europe have raised the most capital via ICOs, founders from North America have marginally out-raised those from Europe

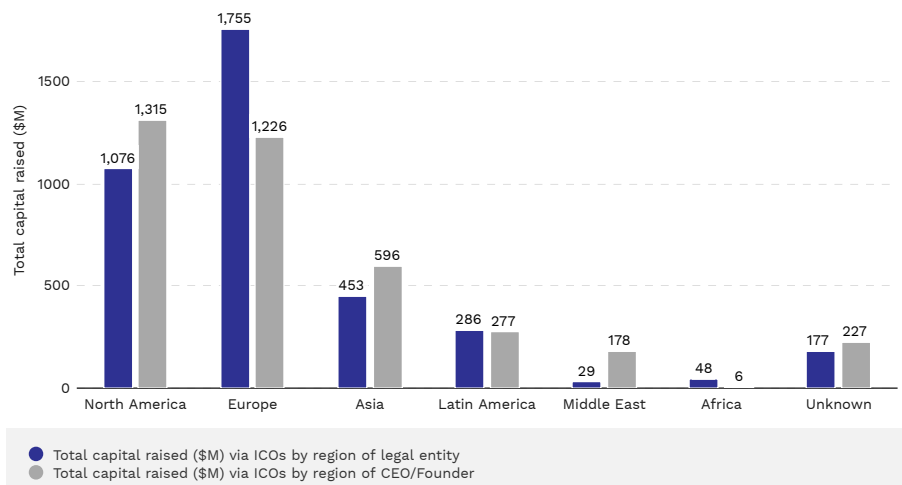
Switzerland's openness to ICOs has attracted ICO projects that have raised significant capital

\$529M

raised by ICO projects registered in Europe but whose founders are based elsewhere

Switzerland is a leading home to the legal entities behind ICO projects, but not always to their founders

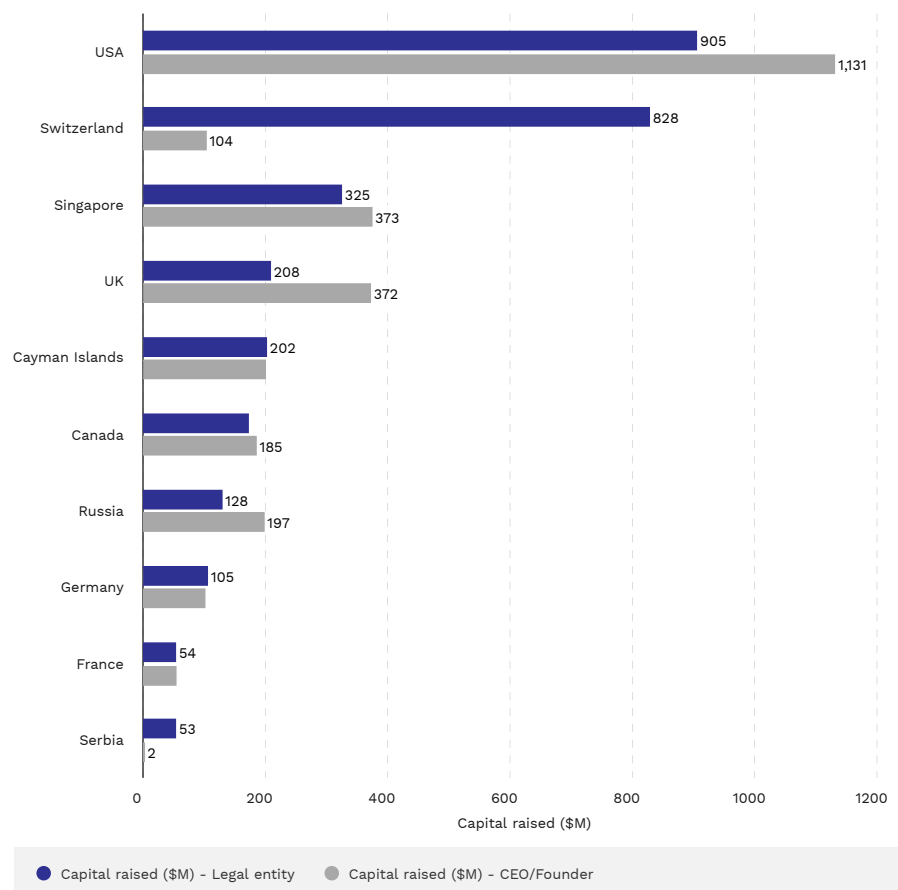
Total capital raised (\$M) via ICOs by region of legal entity versus region of CEO/Founder



Note: Geographical data sourced by TokenData from ICO websites, white papers and social media. Unknown captures all ICOs where the region of legal entity or of the CEO/Founder is not known

Source: TokenData

Top 10 countries by capital raised (\$M) via ICO based on country of legal entity location and country of CEO/Founder location



Note: Geographical data sourced by TokenData from ICO websites, white papers and social media

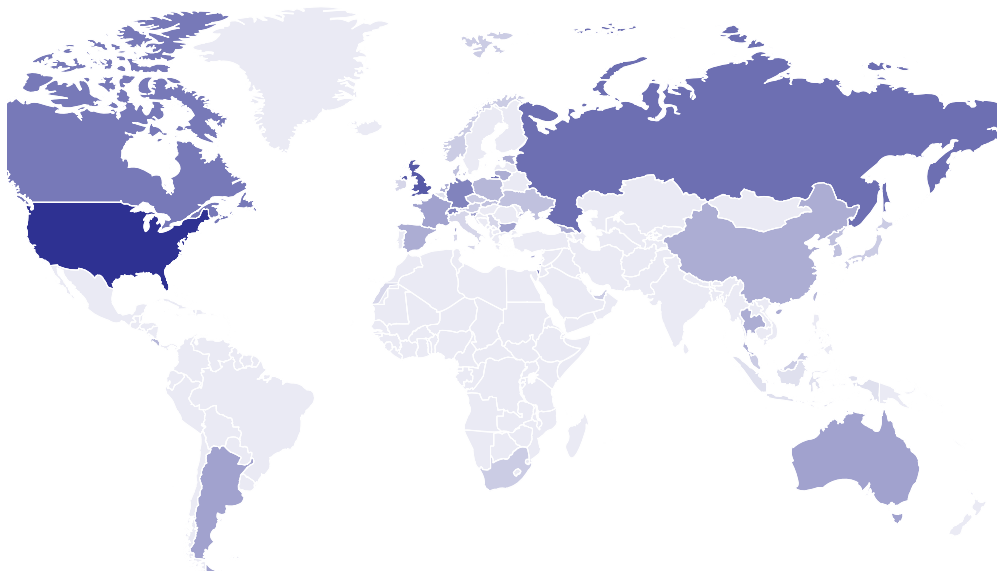
Source: TokenData

Europe leads the race to tokenize assets and the ICO fundraising boom

The ICO fundraising model has allowed founders from around the world to raise capital

Map of funds raised (\$M) via ICO by country

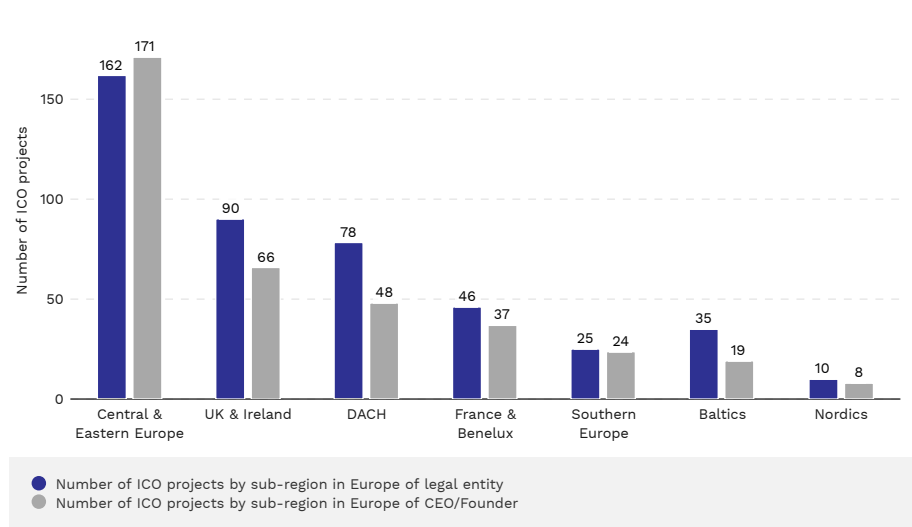
01	USA	1130.8
02	Singapore	380.7
03	UK	371.6
04	Cayman Islands	200.0
05	Russia	196.7
06	Canada	184.6
07	Israel	171.2
08	Switzerland	103.6
09	Germany	101.1
10	Hong Kong	65.4
11	Cyprus	63.4
12	Argentina	62.0
13	Slovenia	58.1
14	France	54.2
15	Australia	49.7
16	Bulgaria	42.6
17	China	40.6
18	Estonia	37.0
19	Lithuania	36.4
20	Netherlands	32.2



Europe leads the race to tokenize assets and the ICO fundraising boom

Central & Eastern Europe dominates the number of ICO projects launched from Europe

Number of ICO projects in Europe by sub-region of legal entity versus CEO/Founder

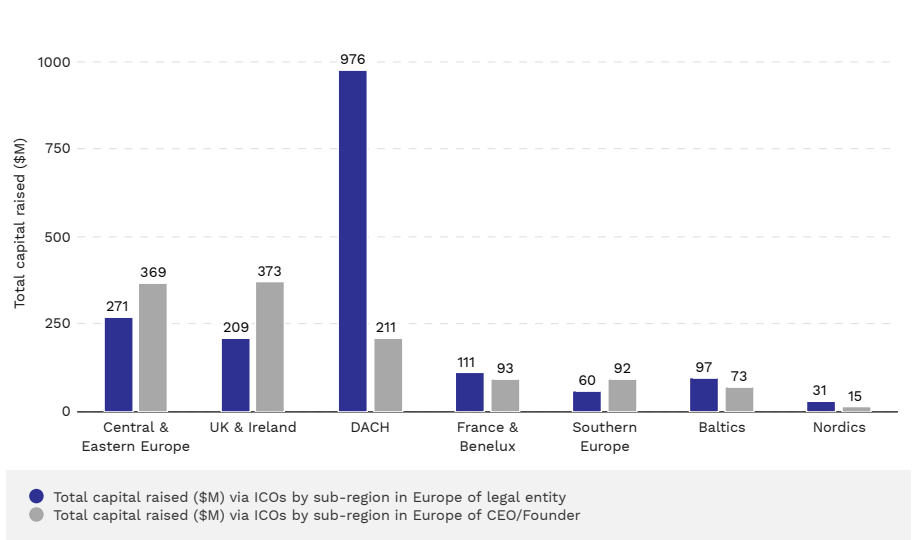


Note: Geographical data sourced by TokenData from ICO websites, white papers and social media. Unknown captures all ICOs where the region of the legal entity or of the CEO/Founder is not known

Source: TokenData

...but looking at the sum of capital raised by founders, the UK is just ahead of CEE

Total capital raised (\$M) via ICOs in Europe by sub-region of legal entity versus CEO/Founder



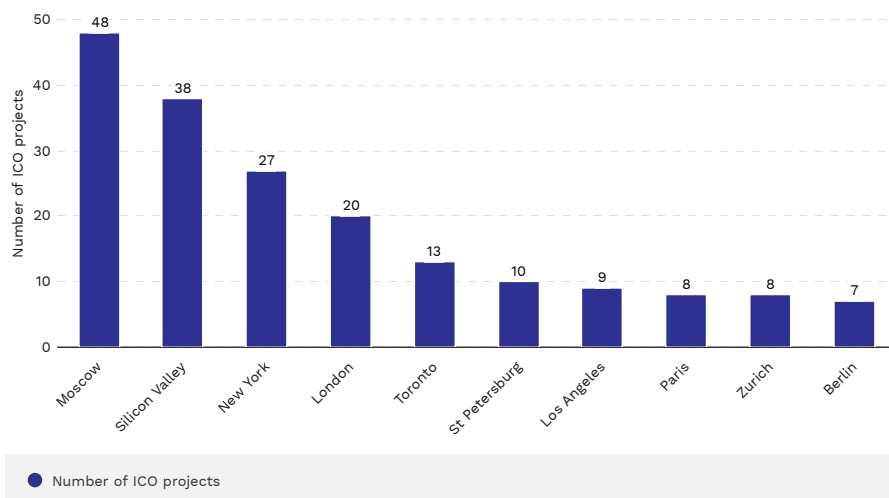
Note: Geographical data sourced by TokenData from ICO websites, white papers and social media

Source: TokenData

Europe leads the race to tokenize assets and the ICO fundraising boom

European cities make up 5 of the Top 10 hubs globally for ICO projects, including the #1 hub

Top 10 cities by number of ICO projects based on location of CEO/ Founder

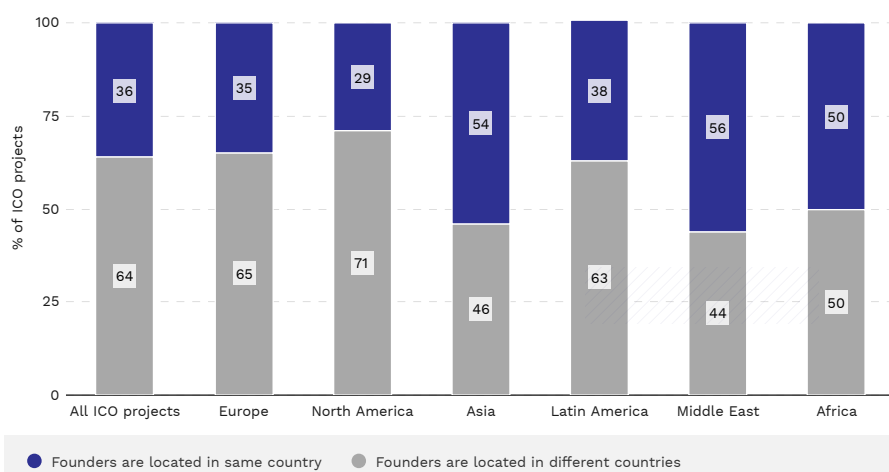


Note: Geographical data sourced by TokenData from ICO websites, white papers and social media

Source: TokenData

But this is an area where everything is distributed, including the teams. Two out of three ICO projects have founding teams located in different countries

Share of ICO projects where founders are distributed in different countries



Note: Geographical data sourced by TokenData from ICO websites, white papers and social media. Based on stated location of founders. ICO projects are considered to have distributed founding teams where at least two founders are located in different countries

Source: TokenData

CORPORATE

Last year we discovered how European corporates were awakening to tech and realising its potential and opportunity

This year we are seeing clear signs that this trend is evolving at pace. Across the board, Europe is playing to its traditional strengths and industrial heritage, and the relationship between old and new industry is now characterised by partnership and collaboration.

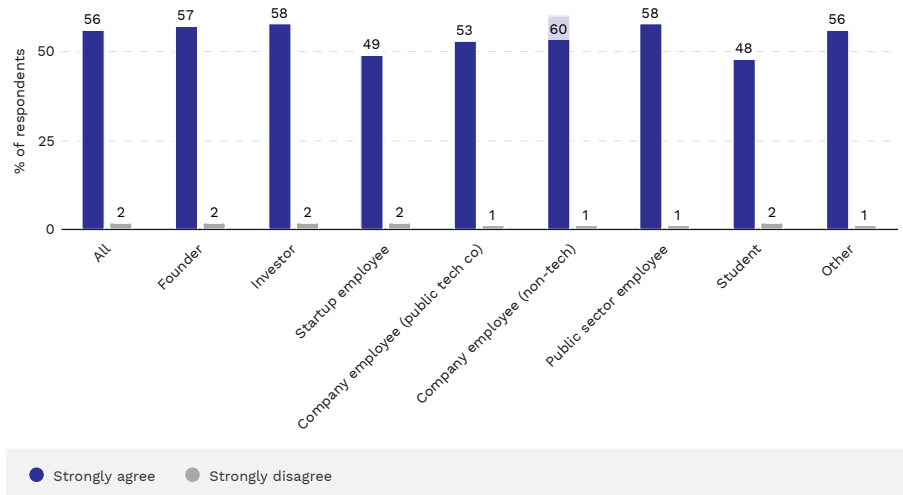
7.1

The perception in Europe's tech industry is that startups need to forge closer ties with traditional industry

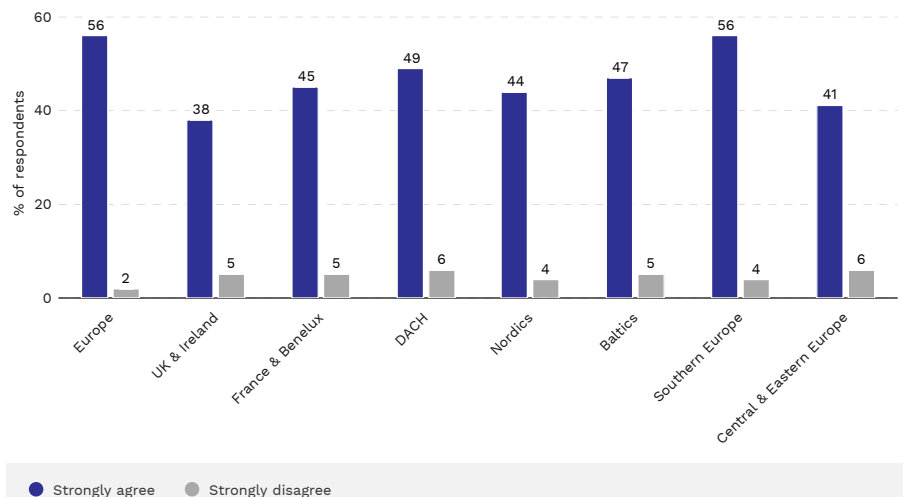
Europe is united behind the idea that the region's tech startups need stronger ties with traditional industries

The European tech ecosystem needs stronger ties with traditional industries

Occupation



Geography



Note:

Strongly agree is composed of respondents answering 6 or 7 on a 7-point Likert scale. Strongly disagree is composed of founders answering 1 or 2 on the same scale

Source:

The State of European Tech Survey 2017



“

I think that traditional industries are fuelling the European tech ecosystem in three ways. First, they can be direct investors in startups. Second, these big companies are pools of talents for startups. They have recruited and trained highly skilled engineers and invested a lot in R&D, which contributes to the deep tech disruptions. Finally, the existence of strong historic players in key sectors such as automotive stimulates a new generation of leading innovative players to provide tomorrow's solutions.

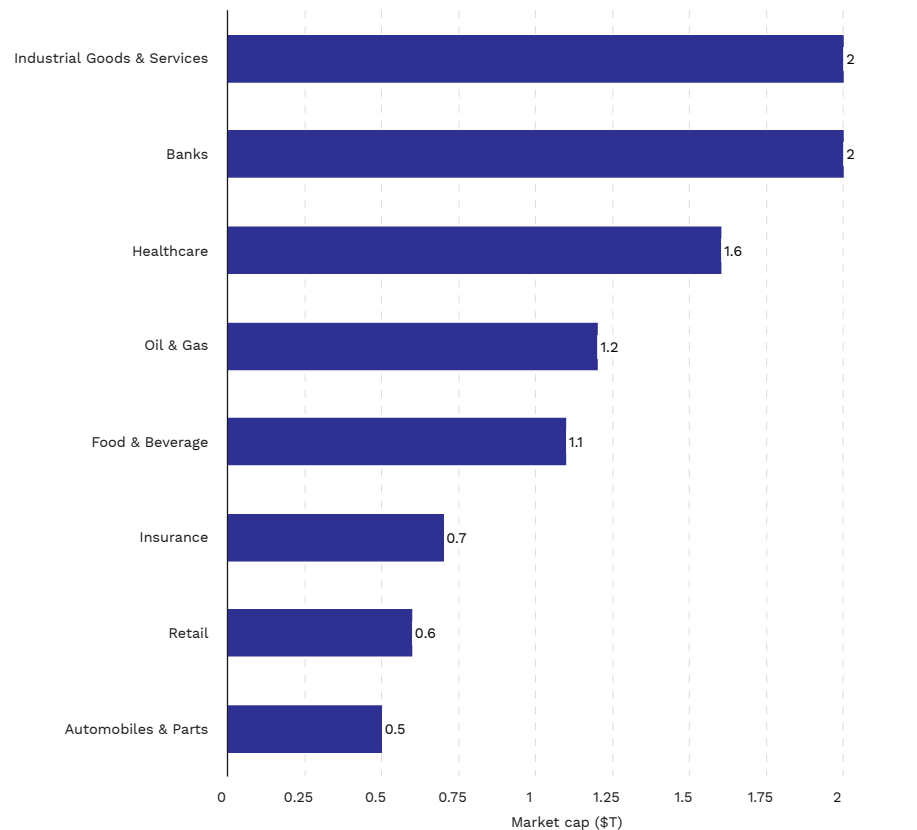
Fleur Pellerin
Korelya Capital

”

Europe's corporates are battling to defend trillions of dollars of enterprise value

Trillions of dollars in enterprise value could be put in play

Aggregate market cap (\$T) for European-listed public companies by selected industry sectors



● Market cap (\$T)

Note: Market cap as of 30 September 2017

Source: London Stock Exchange



“

Most of these traditional companies have created innovation teams that actively look for collaboration with interesting tech companies - for example, with companies focused on deep tech - and are looking for ways to introduce these technologies into their standard offerings and make their companies smarter. That's a great opportunity for technology companies in Europe today.

Samuel Mueller
Scandit

”

Europe’s corporates are battling to defend trillions of dollars of enterprise value

European corporates have different levels of focus and engagement with European technology

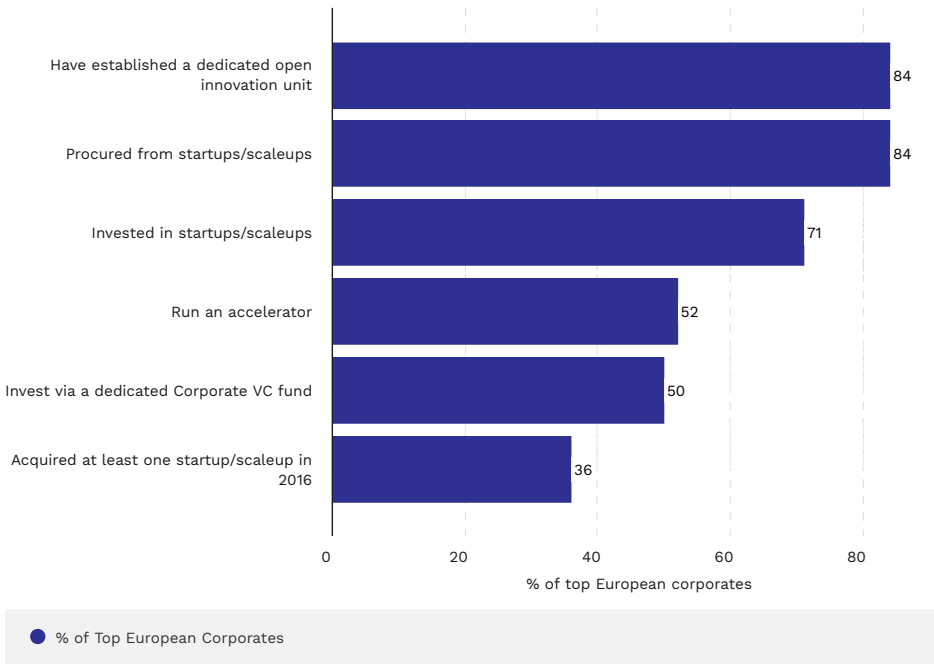
“

They are doing all the things now - running accelerators, investing in funds. In our fund, we have at least twenty corporates and two thirds of those are from France. You go to Station F and when you walk through the building, there are corporate names everywhere, everyone wants to launch there - there are twenty corporate accelerators in the building. Eventually this is getting the startup and the corporate world closer.

Romain Lavault
Partech Ventures

”

Innovation activity of top European corporates



Note: Based on an analysis of 32 leading European corporates

Source: Open Innovation in Europe. A Snapshot of 2017 SEP Europe's Corporate Startup Stars. Mind the Bridge & Nesta, 2017

Leading European startups are building meaningful partnerships with corporates for mutual benefit

Selected partnerships between European tech companies and incumbent corporates announced in 2016 or 2017

Company	Corporate	Partnership type	Date announced
LendInvest	Citigroup	Lending partnership	Nov 2017
Scalable Capital	ING	Distribution partnership	Sep 2017
AlMotive	PSA Group	Technology partnership	Sep 2017
Funding Circle	Aegon	Lending partnership	Aug 2017
Farfetch	Conde Nast	Content & distribution partnership	Jun 2017
Klarna	Visa	Product partnership	Jun 2017
BlaBlaCar	Opel	Distribution partnership	Apr 2017
Chronocam	Renault	Technology partnership	Nov 2016
Deliveroo	Heineken	Distribution partnership	Nov 2016
N26	Allianz	Distribution partnership	Oct 2016

“

It’s an interesting one for us because we have limited activity in actual corporate investment. For us we take a broader, portfolio approach in terms of partnerships, looking at strategically interesting companies that we can partner with. I think there are different ways we can extract value from it and we can deliver value to the startups. One way is certainly equity and direct investment but there are obviously other areas where we can get value out of it, too. Exclusivity in our category or long-term commitment and investment in the actual partnership.

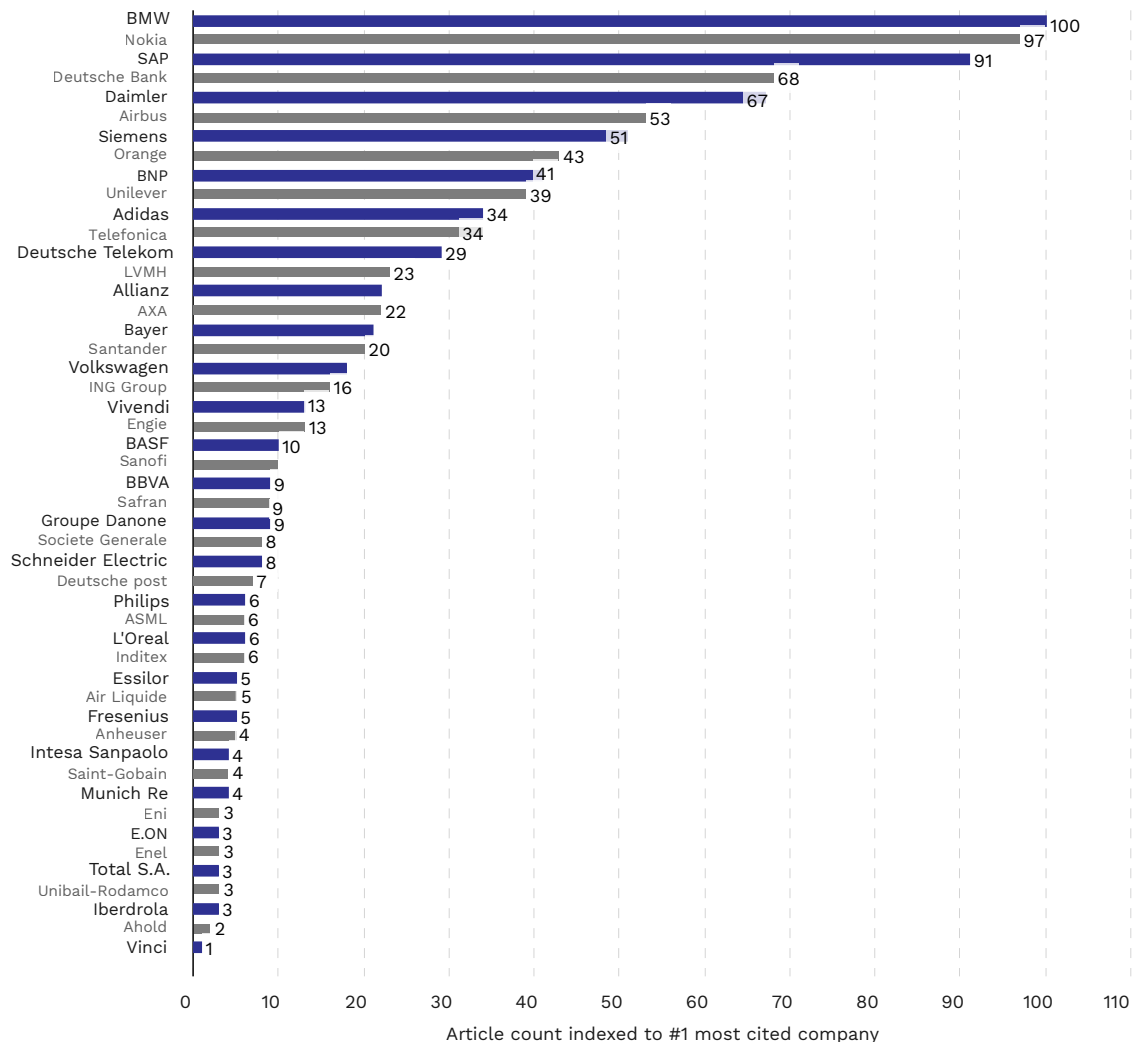
Benjamin Lickfett
Diageo

”

Europe's corporates are battling to defend trillions of dollars of enterprise value

There is a wide variance in the level of media coverage that different European corporates have received in articles discussing technology

Most cited STOXX Europe 50 constituents in media articles discussing "technology"



Note: Company list based on STOXX Europe 50 constituents as of 30 September 2017. Article count based on unique article containing "technology" and named company. Overall source set based on representative list of 100 European business and tech publications

Source: Signal



“If you think about well-established companies, ten years ago they were saying that there might be a big tech company in the future - whereas now they think “Guys, we need to put technology at the heart of our business or otherwise we’re going to be killed.” It’s the beginning of a new era.

Juan Urdiales
Jobandtalent

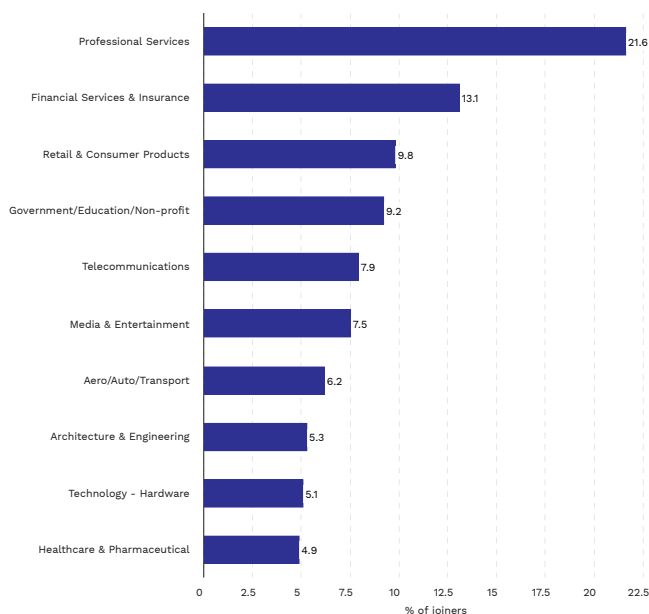
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7.3

Spotting patterns in the flow of talent between tech & traditional industry

Professional and financial services are the most important source sectors of tech industry talent, but there are material numbers coming from sectors such as retail and auto

Top source sectors for inbound tech talent (“joiners”) by industry



Note:

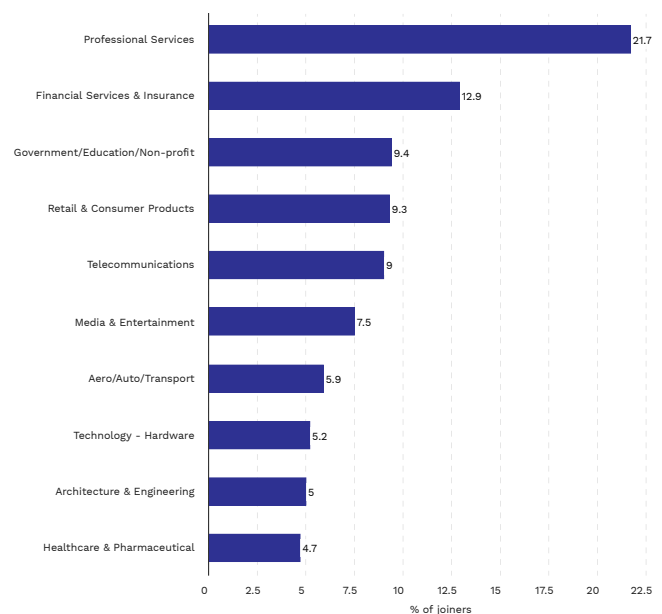
All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A ‘mover’ is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2017 and 2016

Source:

LinkedIn

For additional context, it is worth analysing a similar dataset covering tech talent movement in 2016 provided by LinkedIn for last year’s State of European Tech

Top 10 source sectors for inbound tech talent (“joiners”) by industry in 2016



Note:

All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A ‘mover’ is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2016 and 2015

Source:

LinkedIn



“

If you look at Europe, you have a combination of world class universities and world class companies historically building world class products, be that supplying to the US or elsewhere. What we as entrepreneurs and young startups are now benefiting from is that knowledge and those people who have worked in those industries – they’re coming on board and building the next generation of technologies.

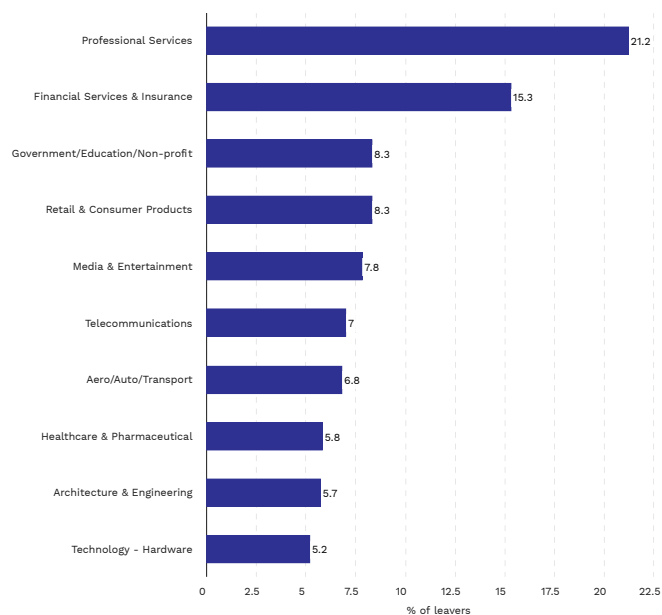
Remo Gerber
Lilium Aviation

”

Spotting patterns in the flow of talent between tech & traditional industry

The auto sector is attracting a meaningful share of talent from the European tech industry, although companies in professional and financial services are the biggest destination for outbound tech talent

Top destination sectors for outbound tech talent (“leavers”) by industry



Note:

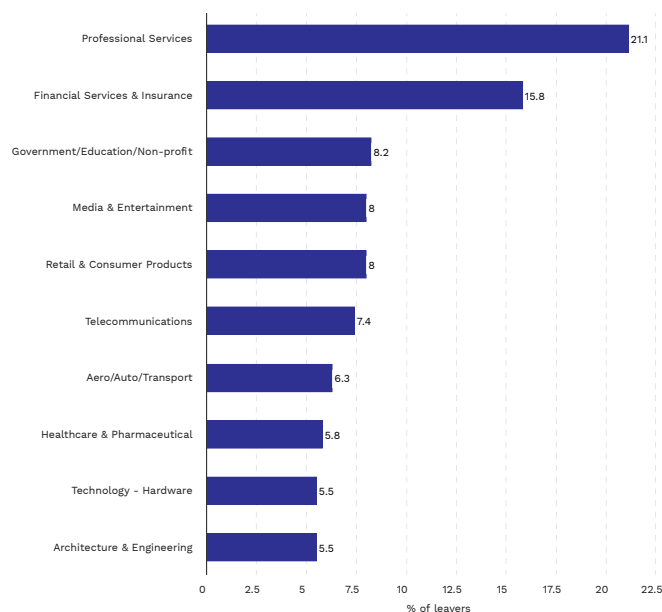
All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A ‘mover’ is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2017 and 2016

Source:

LinkedIn

For additional context, it is worth analysing a similar dataset covering tech talent movement in 2016 provided by LinkedIn for last year’s State of European Tech

Top 10 destination sectors for outbound tech talent (“leavers”) by industry in 2016



Note:

All interpretations of the LinkedIn data are made by Atomico, not LinkedIn. A ‘mover’ is defined by LinkedIn as somebody now working in the tech industry that has moved country or industry sector for their primary employment between 2016 and 2015

Source:

LinkedIn



“

For a lot of corporates it’s a big challenge to attract talent that is very strong in tech, that has an innovation, growth mindset. I think it’s an ongoing issue for corporates for us this is a big priority. I think a lot of the answer is in culture, and orchestrating the kind of processes to give these types of candidates the ability to have impact, and to minimise the traffic and frustrations, obstacles and processes that are associated with big corporates. If you look at my team, my background is in startups, most of my team were in startups – so corporates are starting to attract this kind of talent.

Benjamin Lickfett
Diageo

”

Spotting patterns in the flow of talent between tech & traditional industry

Given the size of the auto sector in France and Germany, it's not surprising to see that there is a higher share of talent joining the tech industry from auto companies in those two countries

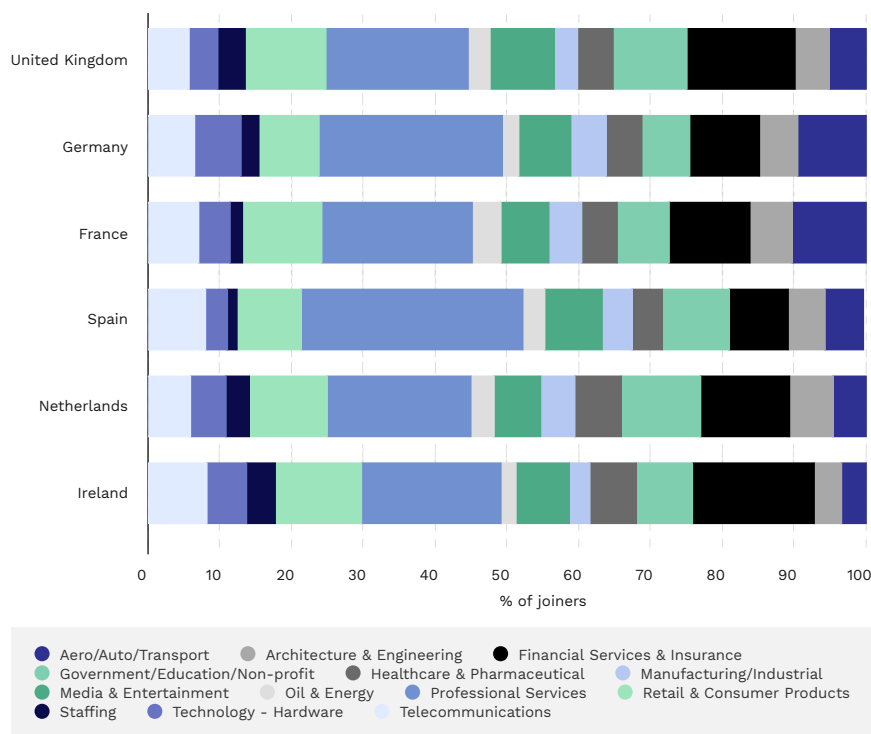
“

I am really optimistic because we are running out of sectors to digitise and the market is getting very crowded which requires more niche expertise. This sort of niche expertise within specific verticals, such as industrial or logistics, is what we can grow out of Europe and build strong global players.

Dr. Jeannette Fürstenberg
La Famiglia

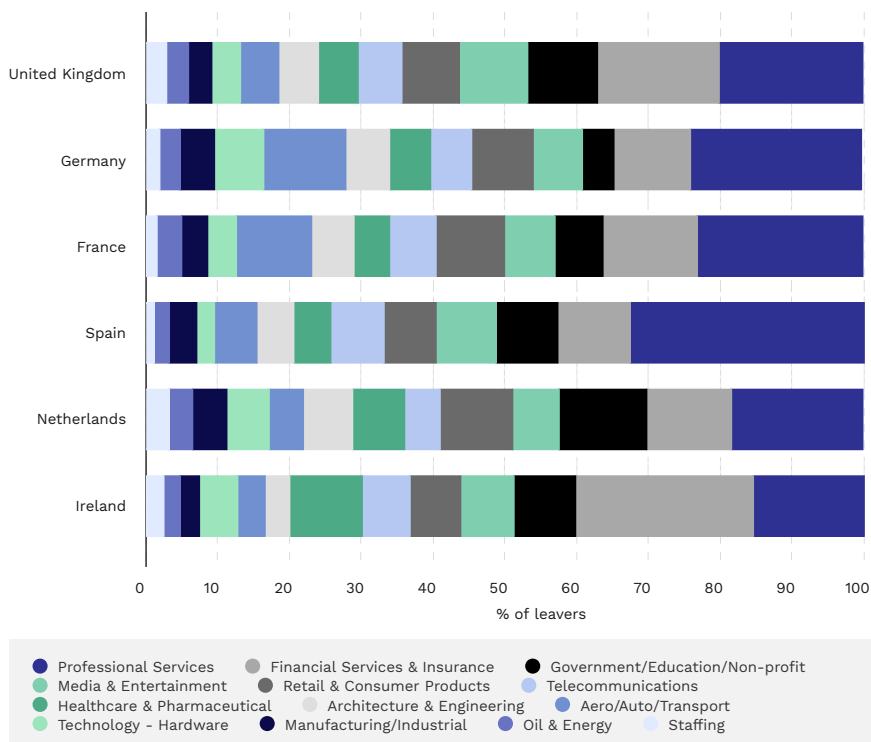
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Top source sectors for inbound tech talent (“joiners”) by industry and country



But migration flow of talent between the tech and auto industry is a two-way flow. In France and Germany more than one in ten people leaving the tech industry are taking up positions at aero/auto/transport companies

Top destination sectors for outbound tech talent (“leavers”) by industry and country



Note:

LinkedIn defined a sector mover as someone who is working in an industry (e.g. tech) of as July 2017 that is different to the industry they were working in July 2016

Source:

LinkedIn

7.4

Europe's traditional incumbents are cash-rich and hungry

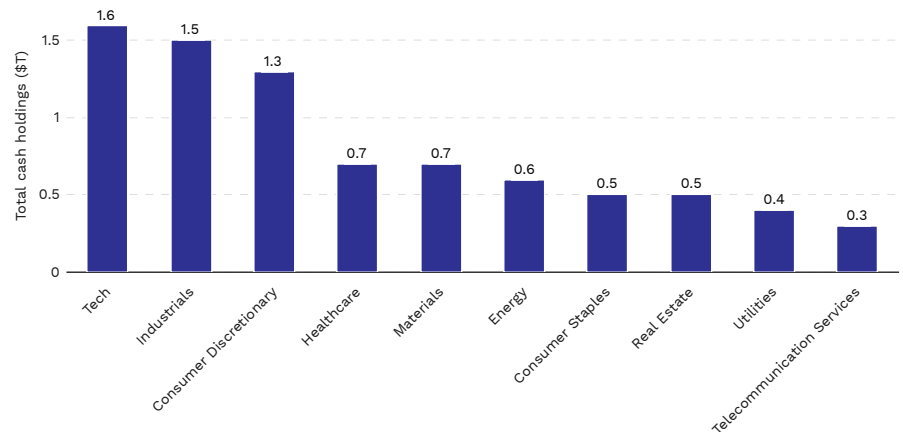
The global tech industry sits on more cash than any other industry

Non-tech companies, however, still control four out of every five dollars sat on publicly-listed balance sheets

80%

share of total global cash holdings that are held by non-tech companies

Total global cash holdings of all publicly-listed companies (\$T) by industry



● Total cash holdings (\$T)

Note: Based on total cash and cash equivalents held by public equities per industry as of 30 September 2017. Non-tech includes all industries except Financials.

Source: S&P CapitalIQ Platform

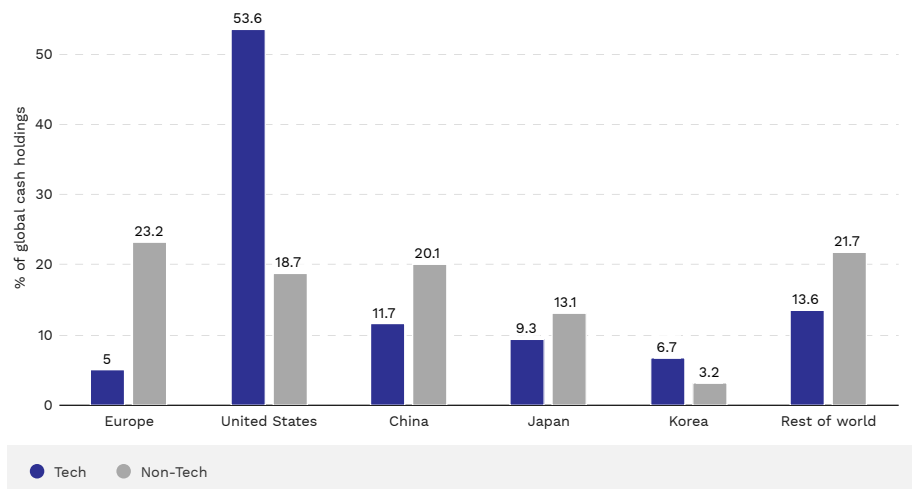
While Europe controls a tiny share of cash held by public tech companies, it is the largest holder of non-tech cash globally, equating to \$1.5 trillion

European non-tech corporates sit on more cash than those from other regions

23%

Europe's share of the global total of \$6T in cash held on the balance sheets of all non-tech publicly-listed companies (excluding companies in the financials sectors)

Share of total global cash holdings of public companies by type and region



● Tech ● Non-Tech

Note: Based on total cash and cash equivalents held by public equities per industry as of 30 September 2017. Non-tech includes all industries except Financials.

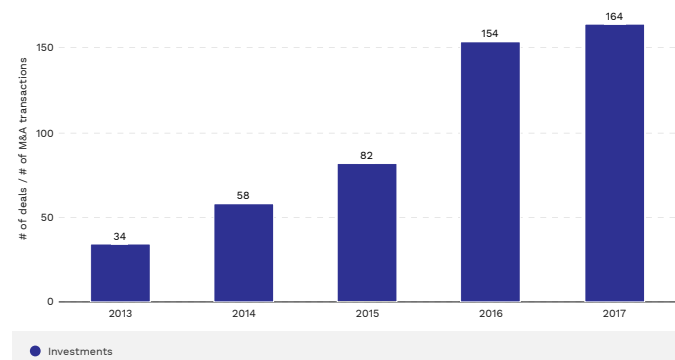
Source: S&P CapitalIQ Platform

Europe's traditional incumbents are cash-rich and hungry

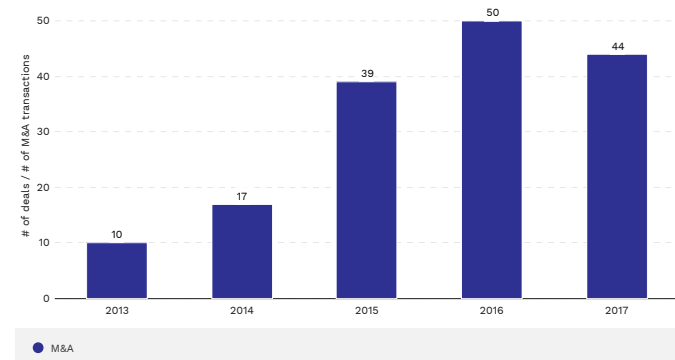
Non-tech companies have made a record number of investments into European tech companies in 2017 and acquired ~100 tech companies since 2016

Investments and M&A activity of non-tech corporates involving European tech companies

Investments



M&A



Note: 2017 based on 9M to September 2017 and projection for Q4 2017 based on Q3 2017

Source: Dealroom.co

European non-tech corporates have made a number of significant acquisitions - in some cases for \$100Ms - of tech companies in 2017

Acquisitions of tech companies by non-tech companies

Target	Acquirer	Date
Argus Cyber Security	Continental	Nov 2017
August Home	Assay Abloy	Oct 2017
TaskRabbit	Ikea	Oct 2017
Fliinc	Daimler	Sep 2017
Luxe	Volvo	Sep 2017
TASS	Siemens	Aug 2017
Squarebreak	Accor Hotels	Jul 2017
Movu	Baloise	Jun 2017
Compte Nickel	BNP Paribas	Apr 2017
Clicars	PSA Group	Apr 2017

Source: Dealroom.co

“

One interesting question - most countries have a tax credit for R&D for large corporates, and that is mostly for the internal R&D work they do. Would we extend that tax credit to startup acquisitions because in a way, when you acquire a startup, you are supporting innovation? I do not make a big difference between spending your money on your own R&D versus spending your money to acquire a

startup to innovate. In the end, it's the same result. It would be interesting to extend those R&D tax credits to startup acquisitions as a way to boost the M&A market by corporates in Europe.

Romain Lavault
Partech Ventures

”

REGULATION

Regulation has often been seen as a constraint on technological development: a handcuff rather than an enabler.

Tax, data protection and employment regulation has historically dominated news and policy agendas - and entrepreneurial mindsets.

As the ecosystem matures, however, there are increasing signals which suggest regulation is emerging as a source of distinct competitive advantage for European tech, at a government, industry and company level.

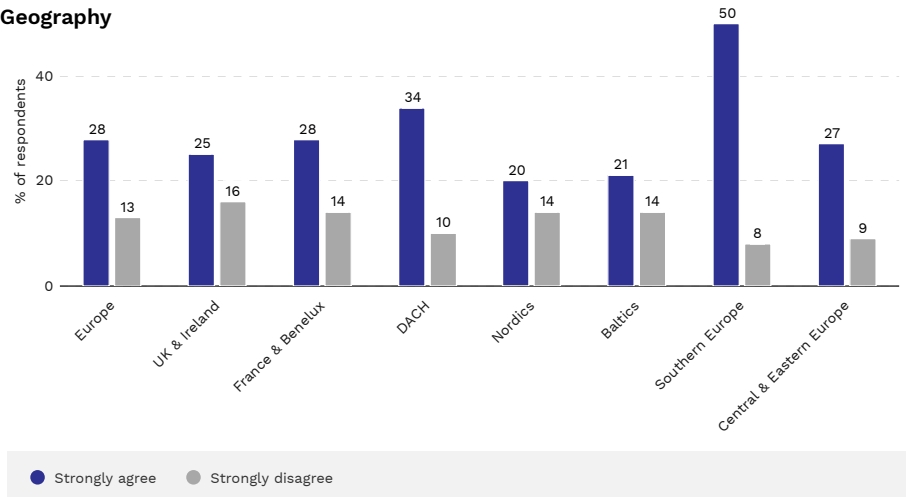
8.1

Regulation is viewed as a barrier to scaling European tech

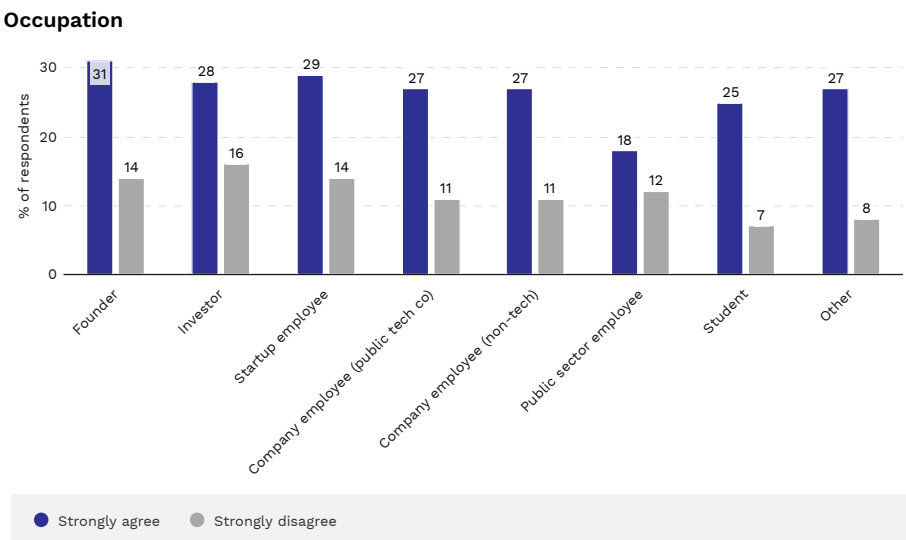
Founders in the southern European countries of Italy and Spain are the most challenged by regulation

Does European regulation make it harder to start and scale a technology business?

Geography



Occupation



Note: Strongly agree is composed of respondents answering 6 or 7 on a 7-point Likert scale. Strongly disagree is composed of founders answering 1 or 2 on the same scale

Source: The State of European Tech Survey 2017

“



The main challenge for European companies to scale up is the size of the market. A truly unified market with more common rules can help a lot of entrepreneurs. Furthermore, entrepreneurs need legal stability in order to launch new products and to innovate, they cannot do it if the legal ecosystem threatens to change. Entrepreneurs need to have faith in Europe, that means Europe needs to show them they can.

Xavier Niel
Station F

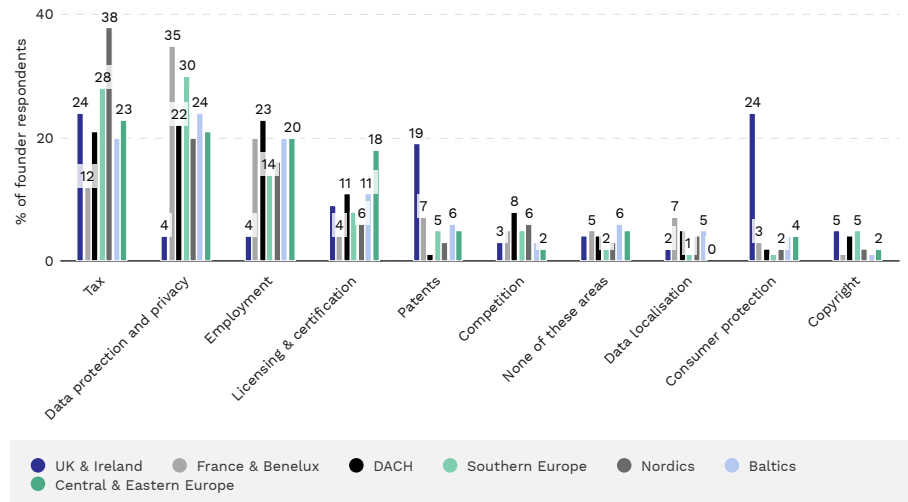
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Regulation is viewed as a barrier to scaling European tech

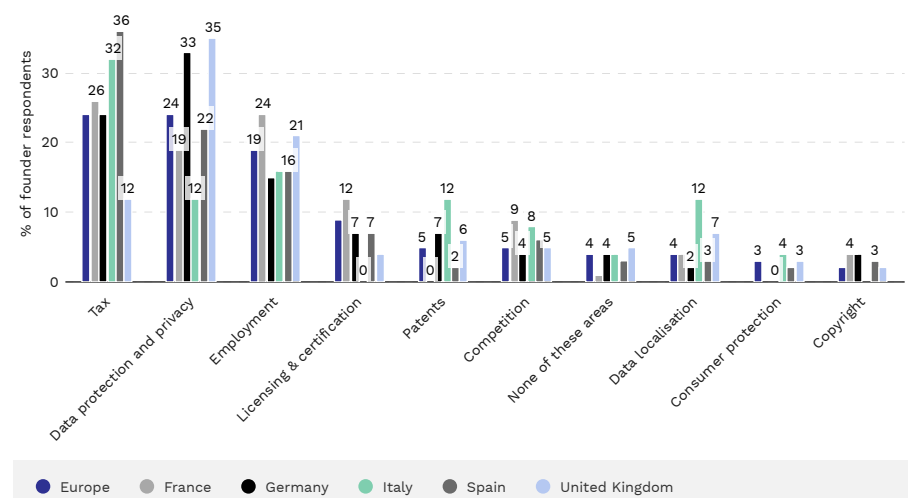
Tax, data protection/privacy and employment regulations are the biggest challenges for European founders overall, but the top challenges vary significantly by country and sub-region

Which one area of regulation do you view as most challenging for your company?

Sub-regional level



Country level



Note: Founder respondents only. Numbers may not add to 100 due to rounding

Source: The State of European Tech Survey 2017



“

We need a smart regulatory environment that appropriately addresses market abuse and distortion without limiting innovation and adoption of new technologies. It is also important that the policymakers and governments adapt to the changing world of work. Preserving vested interests and protecting old structures should not be used as reasons not to allow new innovations to break through, as we will once again see that creative destruction will open new opportunities and generate further prosperity and wellbeing to our societies.

Alex Stubb
European Investment Bank

”

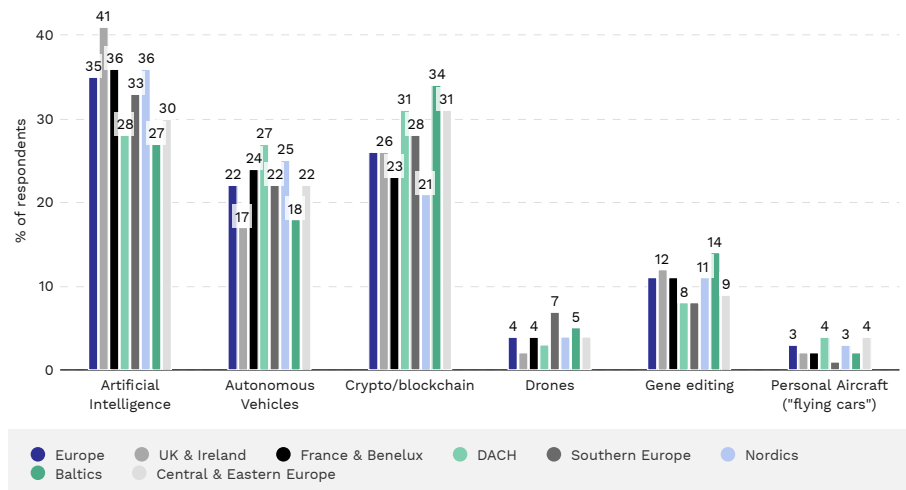
8.2

Regulation is an opportunity for competitive advantage at all levels

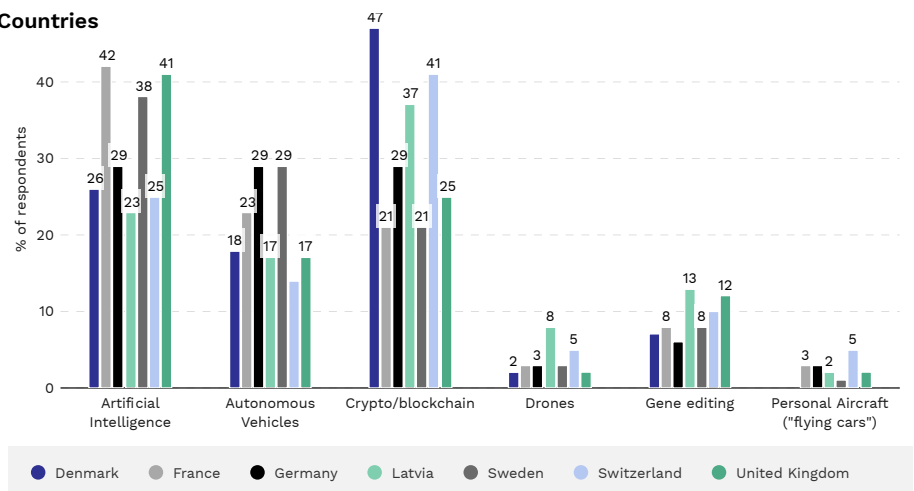
There is broad agreement across Europe's tech community that regulatory change to incentivise the development of AI, blockchain and autonomous vehicles should be prioritised

If your government was to prioritise regulatory changes to incentivise one new area of technology, which should it be?

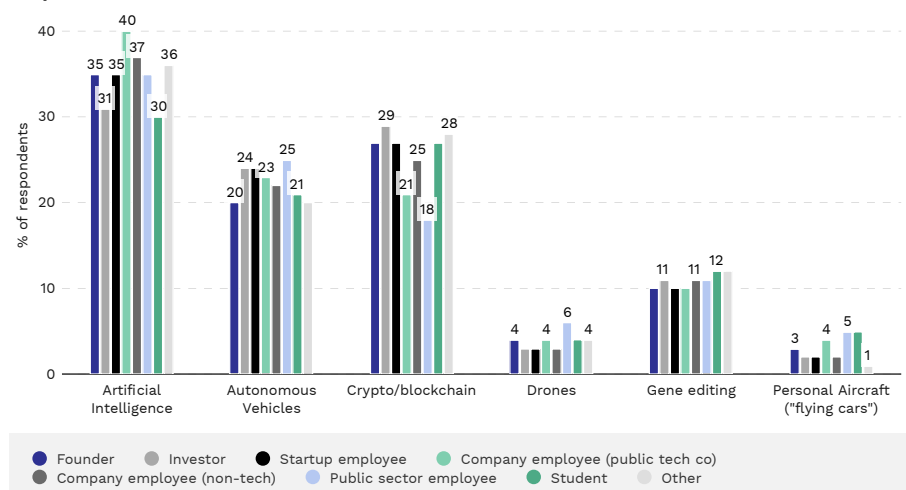
Sub-regions



Countries



Occupation



Source:
The State of European Tech Survey 2017

Regulation is an opportunity for competitive advantage at all levels

“ In the past few decades tech entrepreneurs have transformed unregulated industries. Now tech is turning to regulated industries, such as health or education. We’re going after the most difficult societal issues, and searching for the greatest solutions.

Barnaby Hussey-Yeo
Cleo

”

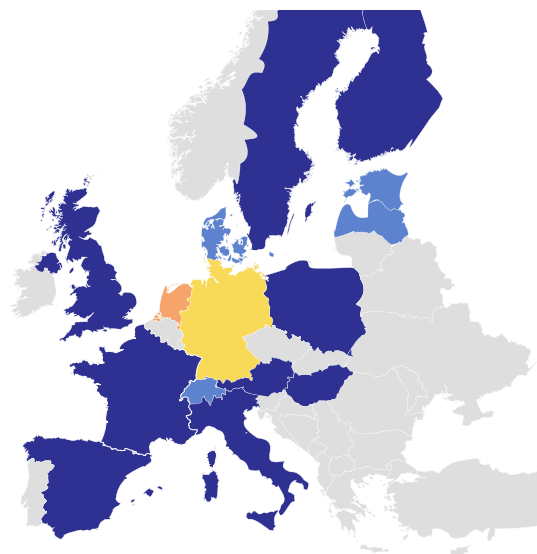
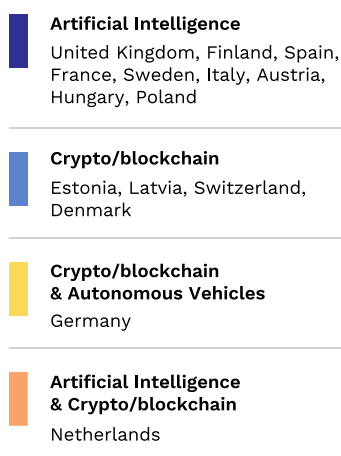
“ We also need to continue to push our European policy on both competition and regulation in the EU market. New regulatory frameworks at EU level are necessary to support the development of emerging tech and market trends, like blockchain or eSports.

Fleur Pellerin
Korelya Capital

”

There are different views on the key area for regulatory change depending on the country

Priority technology area for regulatory changes to incentivise development by country of survey respondent



Note:
Both Germany and the Netherlands voted for AI/blockchain in equal measure

Source:
The State of European Tech Survey 2017

“ We are seeing very encouraging approaches to regulation across various European states, from the UK to France, from Estonia to Malta and Slovenia; additional guidance from the EU at this stage would certainly be welcome and should not be delayed. This is a very fluid and distributed industry, a heavy hand from the regulator could be very costly, but so would protracted uncertainty and doubt. The ideal scenario would be for a European authority to enable fully-tokenised equity structures, which would be a complete game changer.

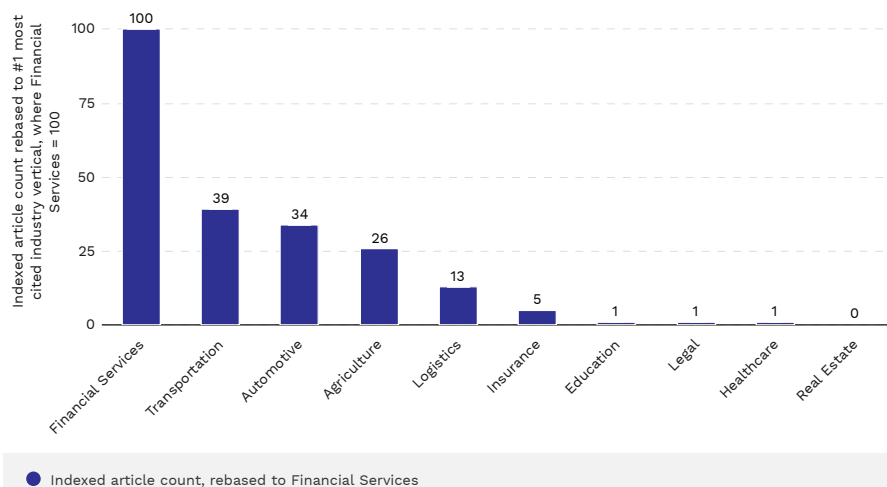
Stefano Bernardi & Yannick Roux
Token Economy

”

Regulation is an opportunity for competitive advantage at all levels

European media attention has concentrated heavily on the role of regulation and technology in the financial services sector. There is far less discussion around key verticals, such as healthcare or education

Relative level of media coverage by industry vertical of articles mentioning technology and regulation



Note: Based on unique articles containing "technology" and "regulation" and selected industry verticals. Overall source set based on representative list of 100 leading European business and tech publications between Jan & Oct 2017

Source: Signal

Companies such as Sweden's Natural Cycles are seeing regulation as a source of competitive advantage

1st

birth control app to be certified as a contraception method by European authorities

“



Whilst Natural Cycles becoming the first app to be certified as a contraceptive might be considered a competitive advantage, we like to think of it as us paving the way for other medical apps and creating a new standard for the industry as a whole. Regulation requires high quality clinical research and ensures that the rights and safety of consumers and society at large are protected.

Elina Berglund-Scherwitzl
CTO & Co-founder | Natural Cycles

”

Regulation is an opportunity for competitive advantage at all levels

Current regulatory frameworks in Europe are not ready for the commercial deployment of key new technologies

Status of the regulatory landscape in selected European countries for the commercial use of key new technologies

	Autonomous vehicles	Initial Capital Offerings (ICOs)	Drones	VTOL personal aircraft	Gene editing
	Commercial use of L4+ autonomous vehicles is permitted on public roads	Specific regulatory framework in place to define treatment of token sales via ICOs for all potential use cases, including security sales and non-security sales	Use of drones beyond visual line of sight is permitted for commercial use cases in urban environments, such as delivery/logistics	Commercial use of VTOL personal aircraft for air taxi services is permitted within urban environments	Gene editing is permitted for commercial and/or non-trial purposes on human embryos
United Kingdom					
Germany					
France					
Italy					
Finland					
Sweden					
Estonia					
Switzerland					
Estonia					
European Union					

- Commercial deployment of specified use case is permitted within current regulatory framework
- Updates to regulatory framework to permit commercial deployment of specified use case are under active discussion / Limited pilot trials may be permitted / Allowed partially
- There is no known current active process to define the timeline for permitting commercial deployment of the specified use case

Note: This is intended as an indicative overview of the state of European regulation as of November 2017

Source: Atomico research

“



Public policy is a mid-to long-term game. We can either have a digital single market that tries to preserve what Europe was strong at for the last 50 years or we can have a digital single market that opens up to what Europe will be strong at for the next 20 to 50 years. So if we speak about what single market we want, this is really about where we set the bar in terms of new market entrants and whether we make it easy for them to access the market or whether we make it harder.

Lenard Koschwitz
Allied for Startups

”

SUCCESS STORIES & EXITS

Europe doesn't always do a great job of championing its successes

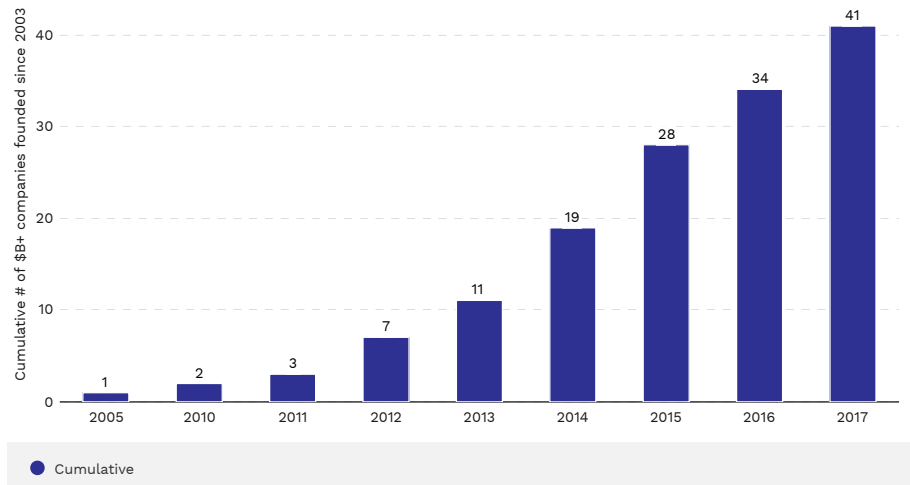
European tech has had a standout year: we have some serious billion dollar success stories in our midst.

9.1

Europe's billion-dollar success stories

Europe has now produced 41 tech companies that have achieved \$B+ valuations through private market investment rounds, via an acquisition or through a valuation in the public markets post-IPO

Number of European \$B+ companies founded since 2003



Note: Several companies that were formerly valued above \$B+ have since fallen below that mark. These include Home24, Monitise, Powa, Soundcloud, Ulmart, Ve Interactive, Wonga

Source: Atomico research

“



Today in Europe we've created so many fantastic companies over the last seven to ten years, so now there is so much talent. More smart people from universities are choosing to go into tech. You have everything in Europe to create billion dollar companies, ten billion dollar companies or maybe even hundred billion dollar companies.

Niklas Zennström
Atomico

”

The UK has produced the most \$B+ companies, but they have now emerged from 11 different countries across Europe since 2003

“

I believe Europe will continue to lead in industries where creativity, tradition and craftsmanship are key, such as fashion. It is no coincidence that the largest players in online luxury fashion are European. In fact, even in the more mass market companies like Zalando. ASOS, inditex, Adidas, are clearly leading the way both off- and online with a high degree of technological innovation.

José Neves
Farfetch

”

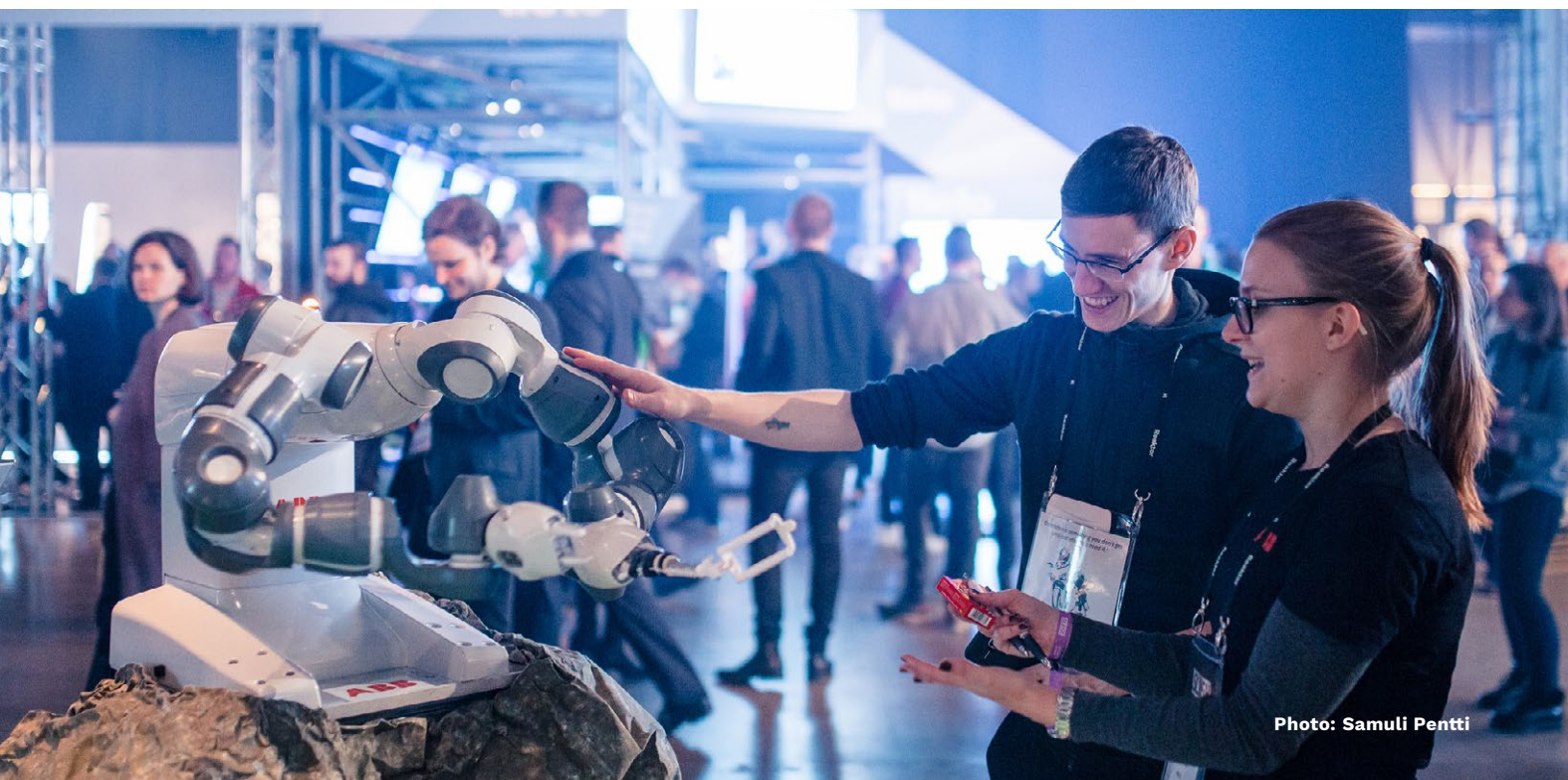
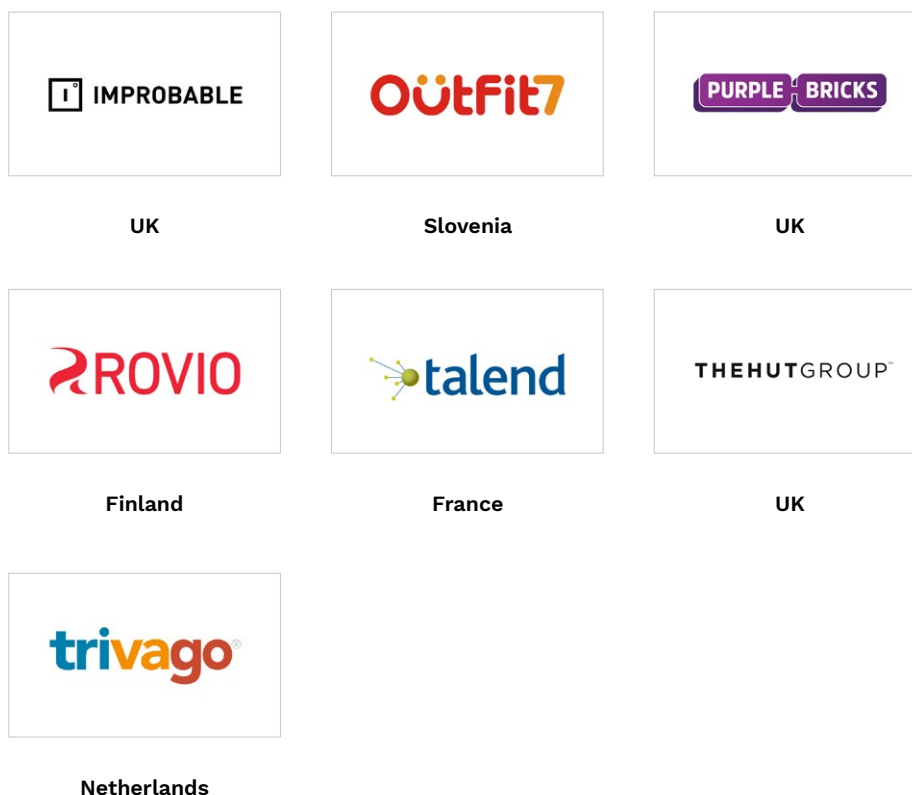
European billion-dollar companies by valuation

Company	Sector	Company status	Year founded	Year first reached \$B+	Country	Latest valuation (\$B)
Spotify	Content	Private	2006	2011	Sweden	13
Zalando	Retail	Public	2008	2012	Germany	11.7
Supercell	Gaming	Acquired	2010	2013	Finland	10.2
Skype	Social	Acquired	2003	2005	Sweden	8.5
DeliveryHero	Food and Drink	Public	2010	2014	Germany	7.6
King.com	Games	Acquired	2003	2014	Sweden	5.9
Markit Group	Financial Services	Acquired	2003	2010	UK	5.5
Rocket Internet	Retail	Public	2007	2012	Germany	3.9
Zendesk	Enterprise Apps	Public	2007	2014	Denmark	3.5
The Hut Group	Retail	Private	2004	2017	UK	3.3
Boohoo.com	Retail	Public	2006	2016	UK	3
Trivago	Travel & Transportation	Public	2005	2017	Netherlands	2.6
Unity	Enterprise Software	Private	2004	2016	Denmark	2.6
Evolution Gaming	Games	Public	2006	2016	Sweden	2.6
Auto1 Group	Retail	Private	2012	2015	Germany	2.5
Mojang	Games	Acquired	2009	2014	Sweden	2.5
Klarna	Financial Services	Private	2005	2013	Sweden	2.5
Vkontakte	Social	Acquired	2006	2012	Russia	2.5
Avito	Classified Directories	Acquired	2007	2014	Russia	2.4
Criteo	Adtech	Public	2005	2013	France	2.4
Fleetmatics	Enterprise Apps	Acquired	2004	2012	Ireland	2.4
Adyen	Financial Services	Private	2006	2014	Netherlands	2.3
Deliveroo	Food and Drink	Private	2013	2016	UK	2
Farfetch	Retail	Private	2007	2015	UK	2
ZPG	Real Estate	Public	2007	2014	UK	2
HelloFresh	Food and Drink	Public	2011	2015	Germany	1.9
Mimecast	Enterprise Apps	Public	2003	2016	UK	1.8
XING	Social	Public	2003	2015	Germany	1.7
TransferWise	Financial Services	Private	2010	2015	UK	1.6
BlaBlaCar	Travel & Transportation	Private	2006	2014	France	1.6
Blippar	Consumer Software Apps	Private	2011	2015	UK	1.5
FanDuel	Games	Private	2009	2015	UK	1.5
Purplebricks	Real Estate	Public	2012	2017	UK	1.4
Talend	Enterprise Apps	Public	2005	2017	France	1.3
Outfit7	Games	Acquired	2009	2017	Slovenia	1.1
Global Fashion Group	Retail	Private	2011	2015	Germany	1.1
Improbable	Enterprise Apps	Private	2012	2017	UK	1
Rovio	Games	Public	2003	2017	Finland	1
MindMaze	Healthcare	Private	2012	2016	Switzerland	1
Funding Circle	Financial Services	Private	2010	2015	UK	1
QIWI	Enterprise Apps	Public	2007	2013	Russia	1

Europe's billion-dollar success stories

Europe has seen seven companies surpass a billion-dollar valuation for the first time in 2017

European companies that surpassed a \$B+ valuation for the first time in 2017, either through a private investment round, via an acquisition or through passing a \$B+ valuation in the public markets for the first time since IPO

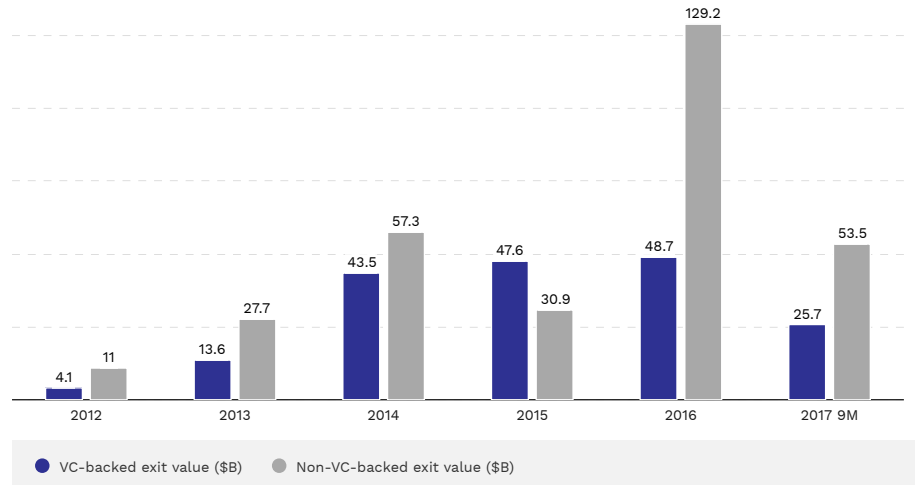


Europe is on track for another \$75B+ of M&A exit value in 2017

Total M&A exit value is tracking towards another \$75B+ year in 2017

European M&A exit value (\$B) by company type (VC-backed or not)

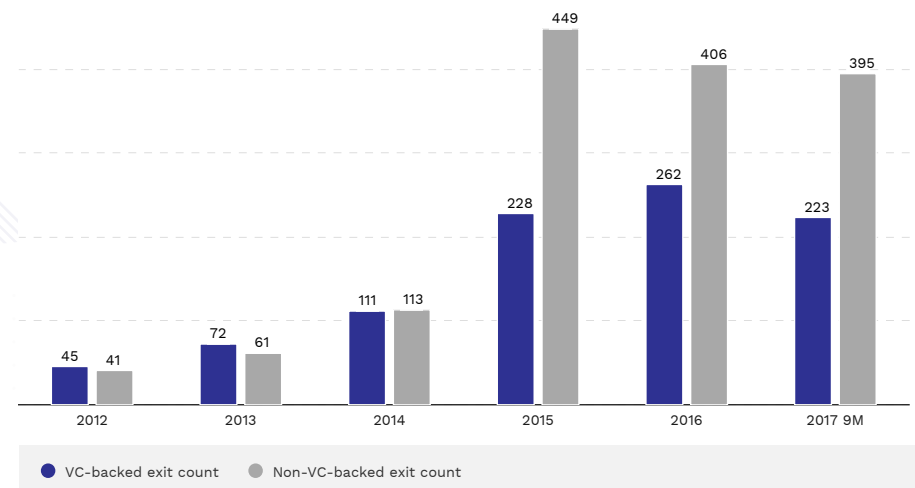
M&A exit value



Note: M&A exit value based on total enterprise value of all tracked transactions

Source: Dealroom.co

M&A exit value



Note: M&A exit value based on total enterprise value of all tracked transactions

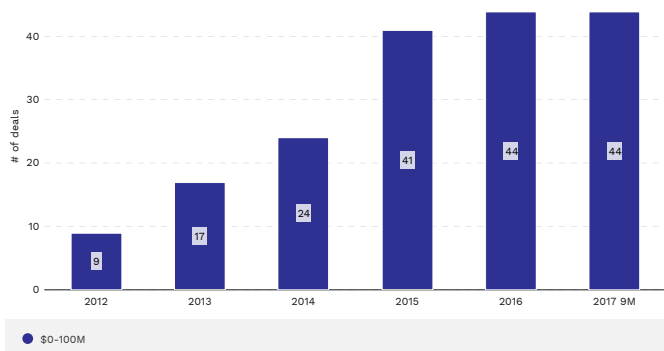
Source: Dealroom.co

Europe is on track for another \$100B of M&A exit value in 2017

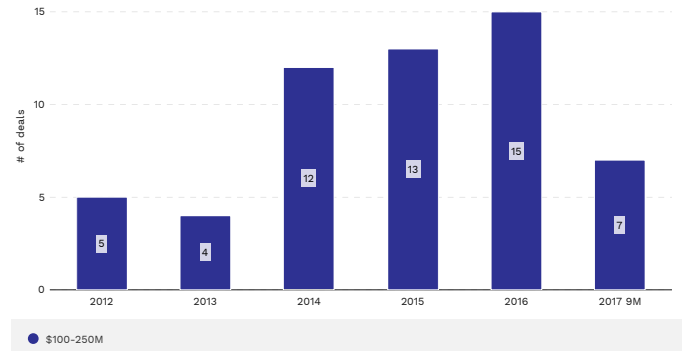
Europe is on track for a record high number of VC-backed exits in 2017

VC-backed M&A exit count by deal size

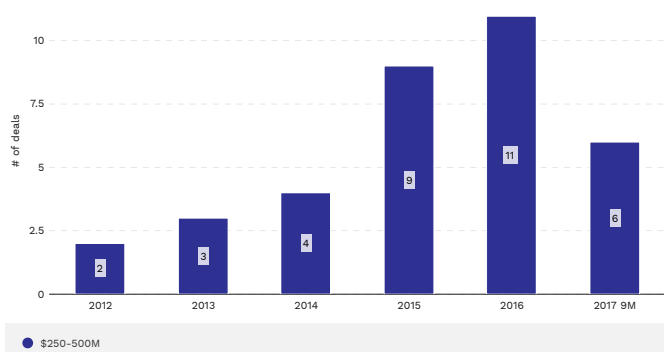
Exit value: \$0-100M



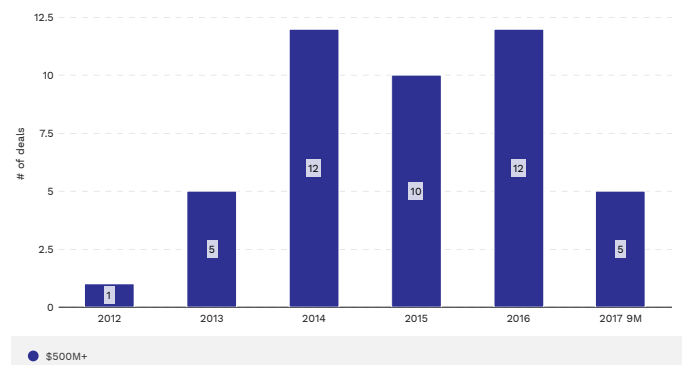
Exit value: \$100M-250M



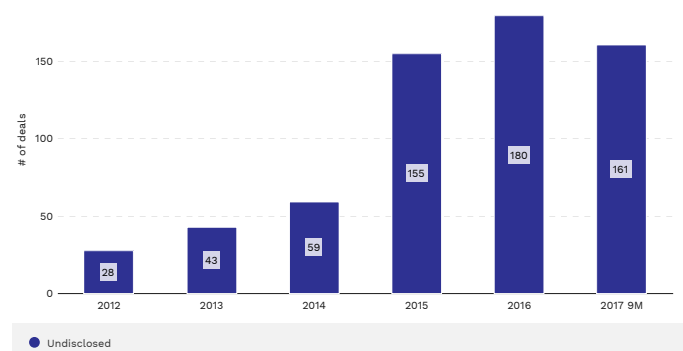
Exit value: \$250M-500M



Exit value: \$500M+



Exit value: Undisclosed

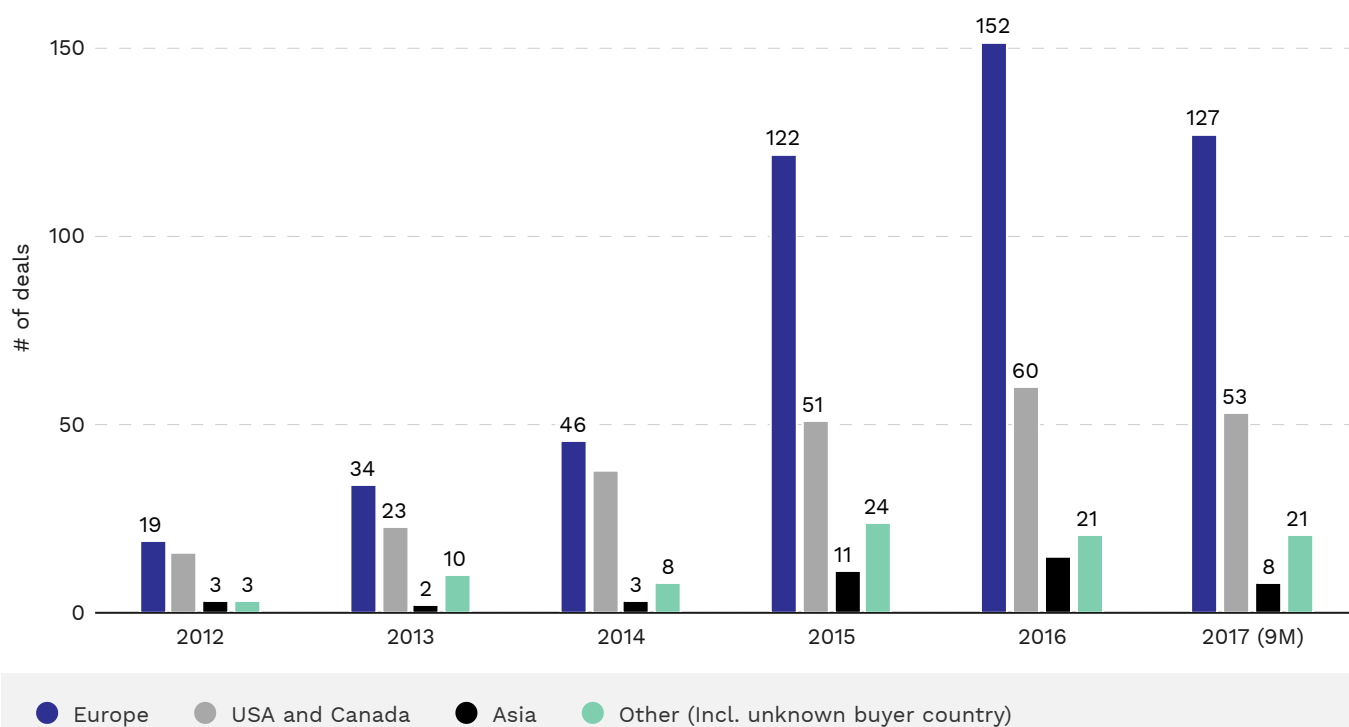


Source: Dealroom.co

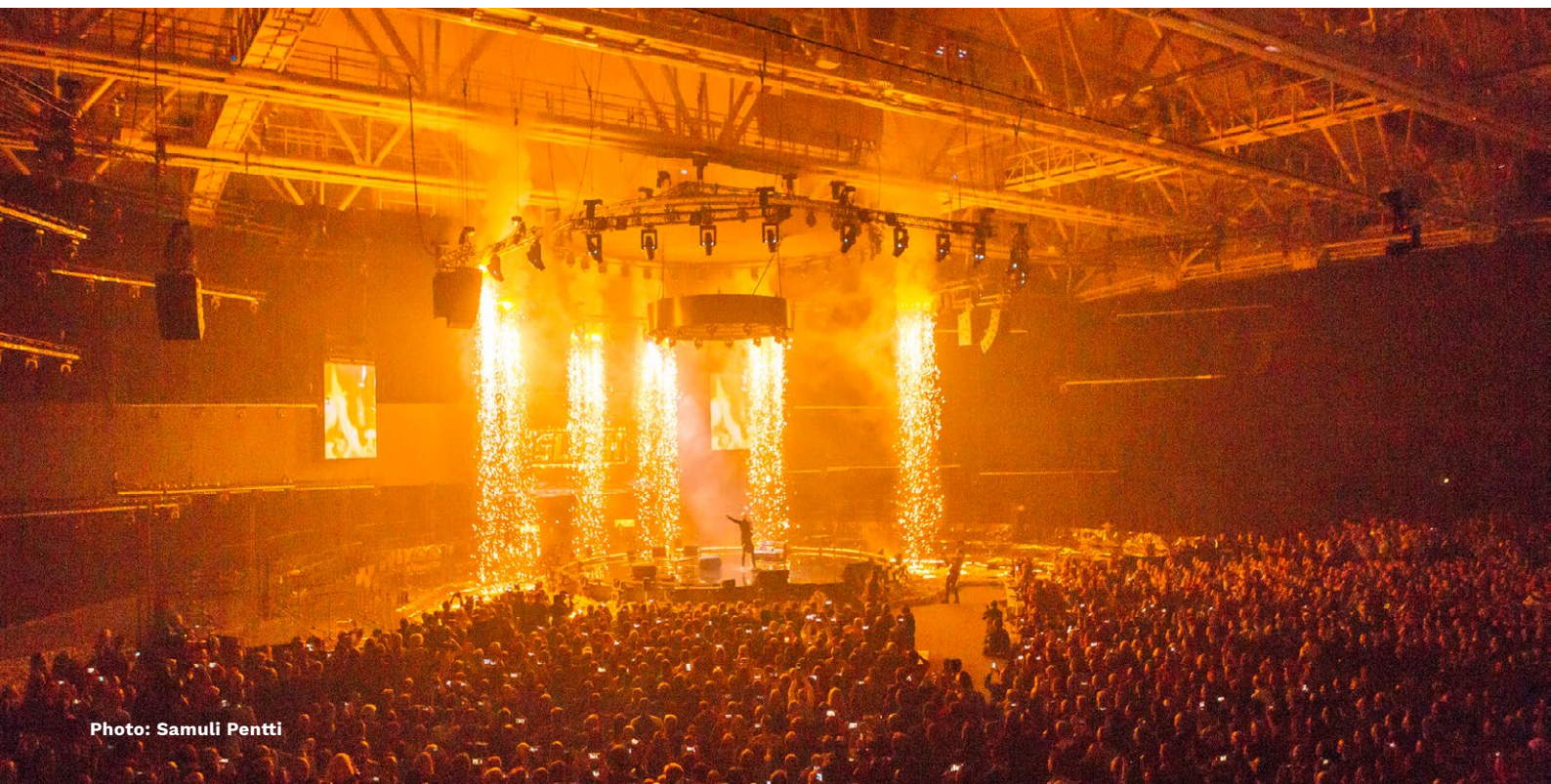
Europe is on track for another
\$100B of M&A exit value in 2017

European tech companies are overwhelmingly acquired by European buyers

M&A exits by buyer country by year



Source: Dealroom.co

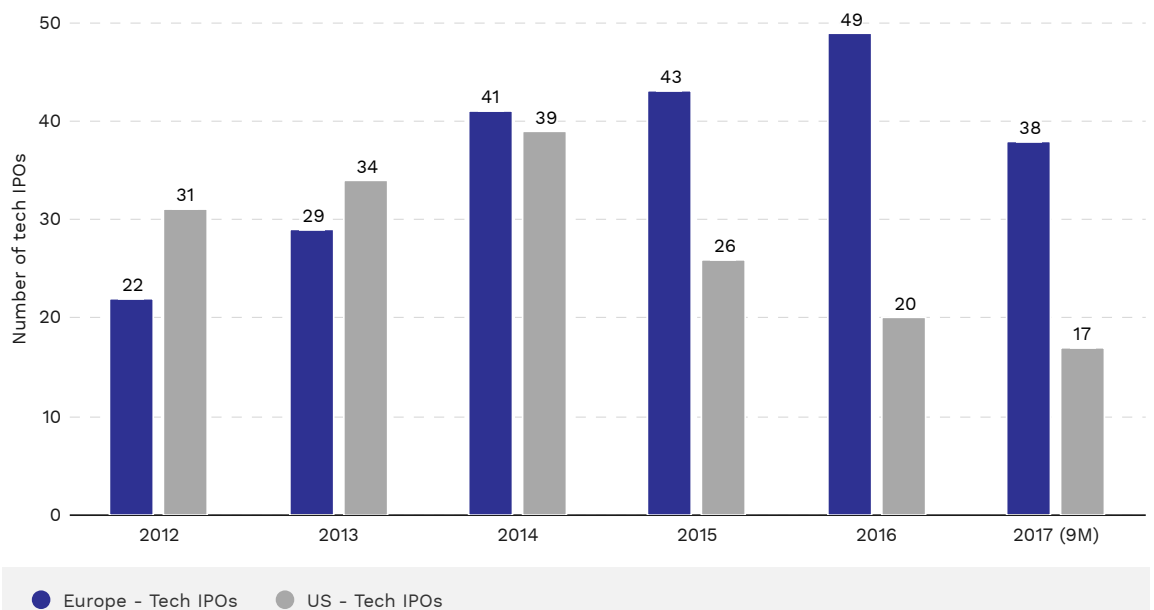


European tech has delivered another strong year of IPOs

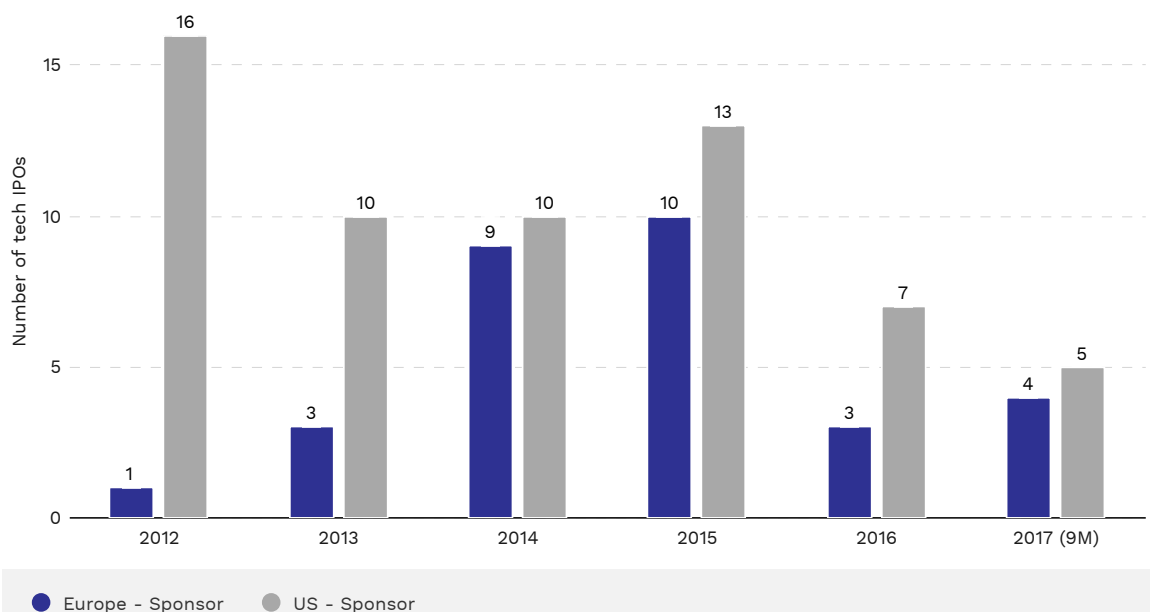
Europe has had the most tech IPOs globally in 2017

Number of tech IPOs by region

Tech IPOs



Sponsor-backed Tech IPOs



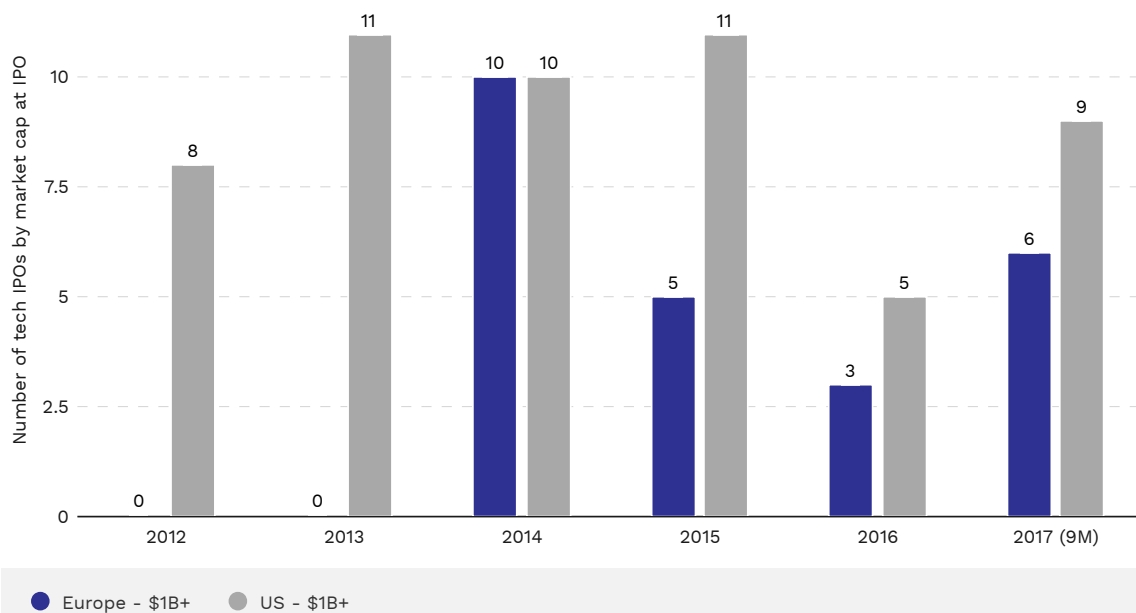
Source: London Stock Exchange

European tech has delivered another strong year of IPOs

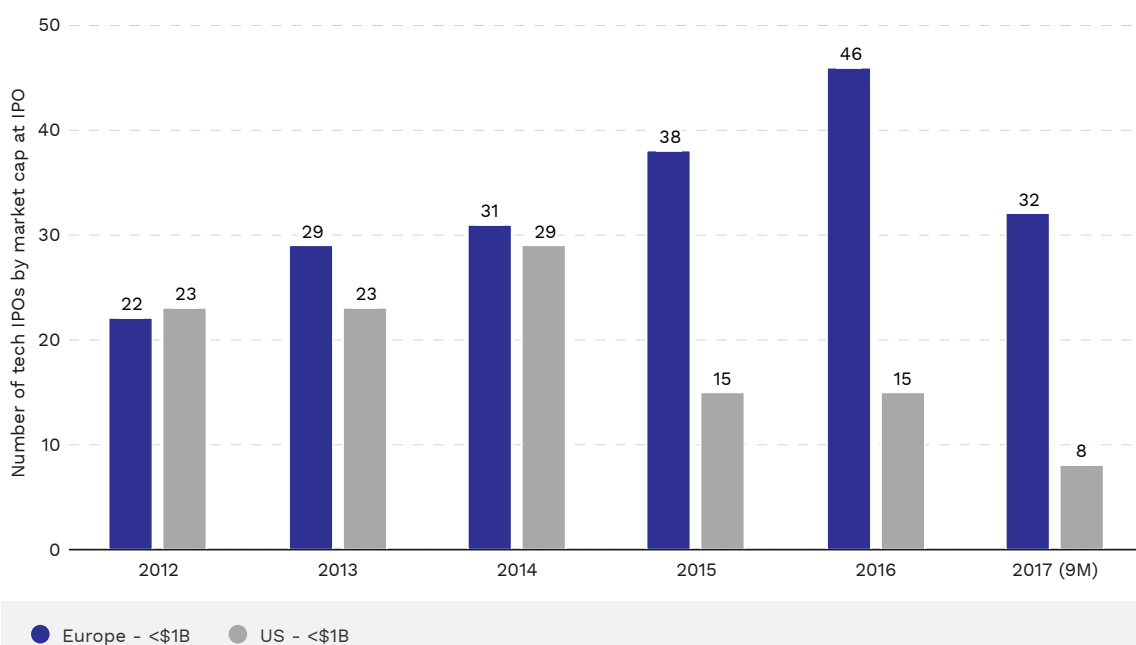
There have been 6 \$B+ tech IPOs from Europe in the first nine months of 2017

Number of tech IPOs by market cap at IPO by year and region

Market cap of \$1B+



Market cap of < \$1B



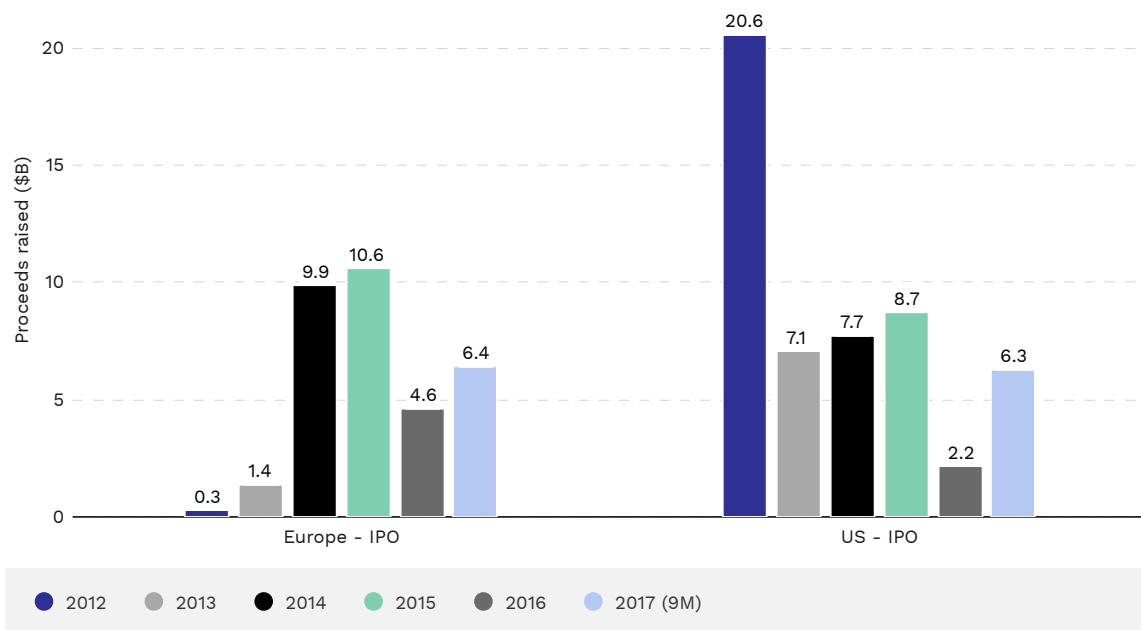
Source: London Stock Exchange

European tech has delivered another strong year of IPOs

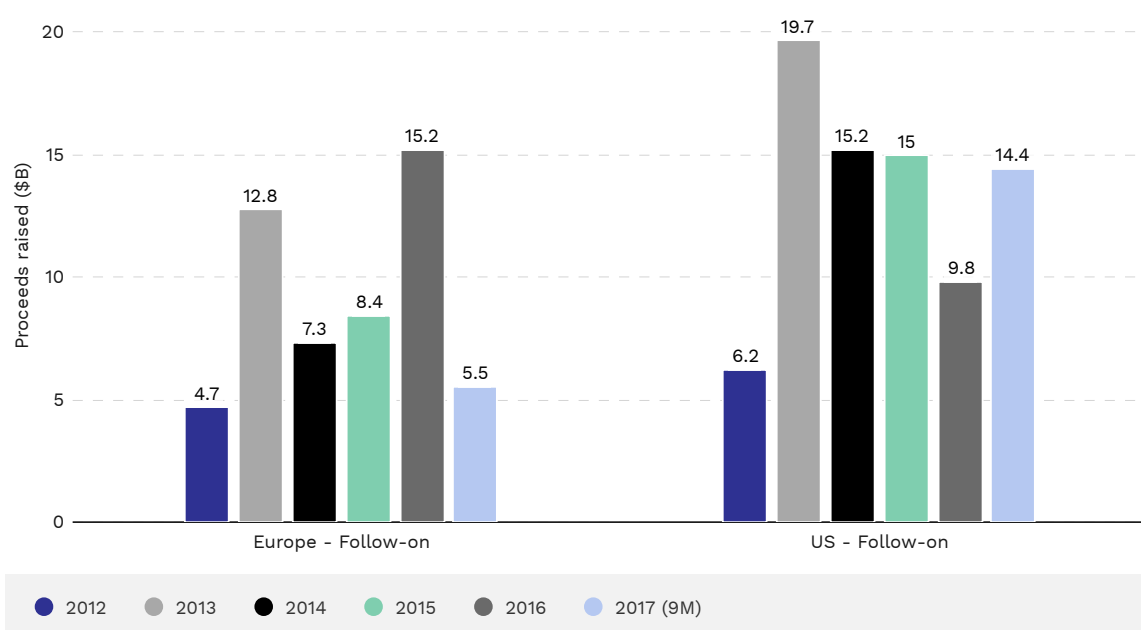
European tech companies have raised \$6B+ via the public capital markets in the first nine months of 2017, exceeding proceeds raised in US tech IPOs

Proceeds raised (\$B) by funding type and region

IPO



Follow on



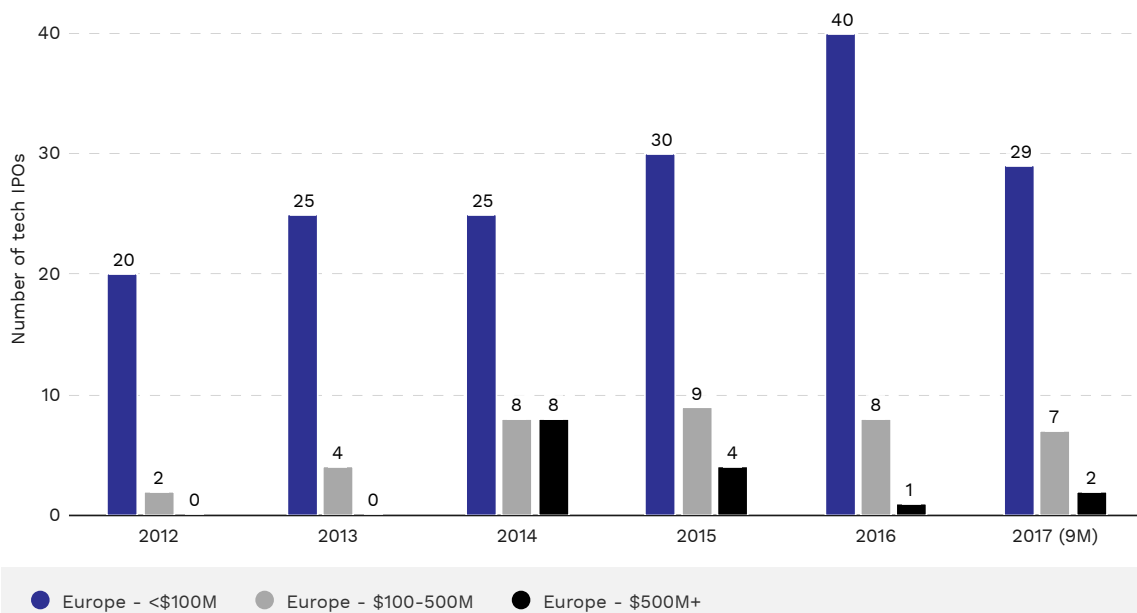
Source: London Stock Exchange

European tech has delivered another strong year of IPOs

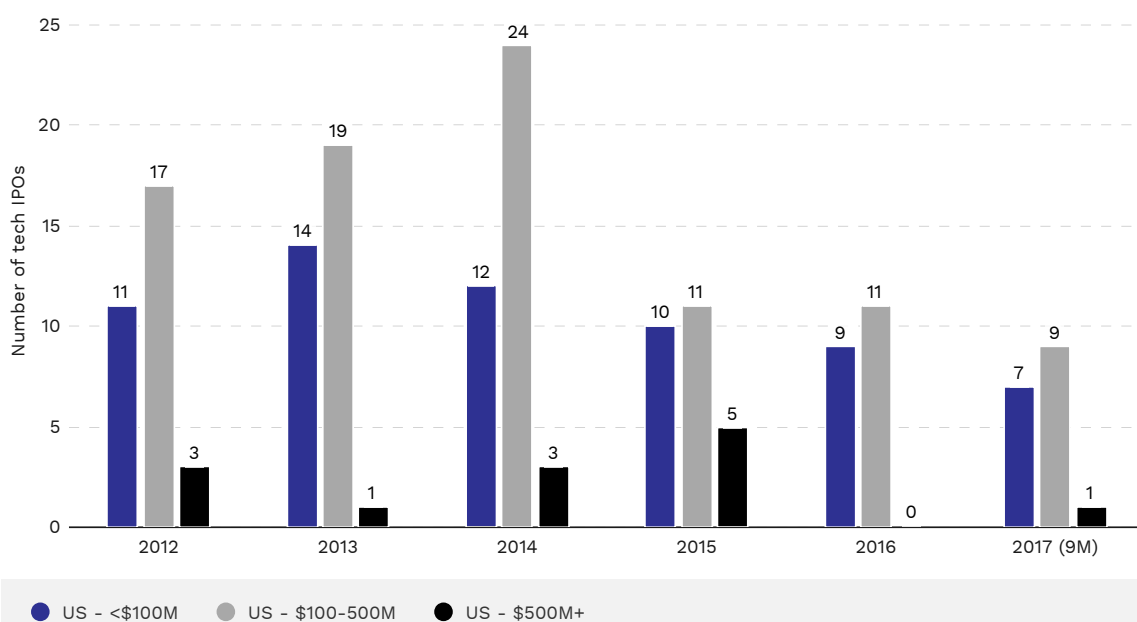
Europe is traditionally stronger for smaller listings, but since 2012 the region has also seen more large offerings of \$500M+ than the US

Number of tech IPOs by proceeds raised at IPO by year and region

Europe



US



Source: London Stock Exchange

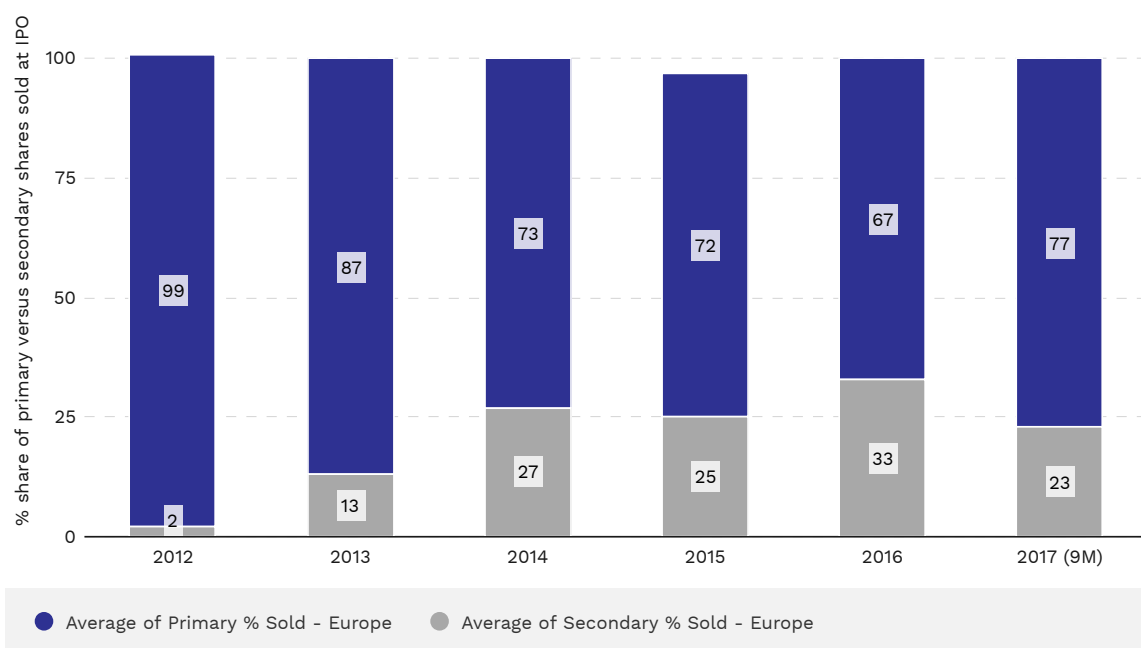
European tech has delivered another strong year of IPOs

European markets better understand the importance of liquidity and so are more open to existing investors selling down their position at IPO. As a result, there is a much higher share of secondary share sales than in the US

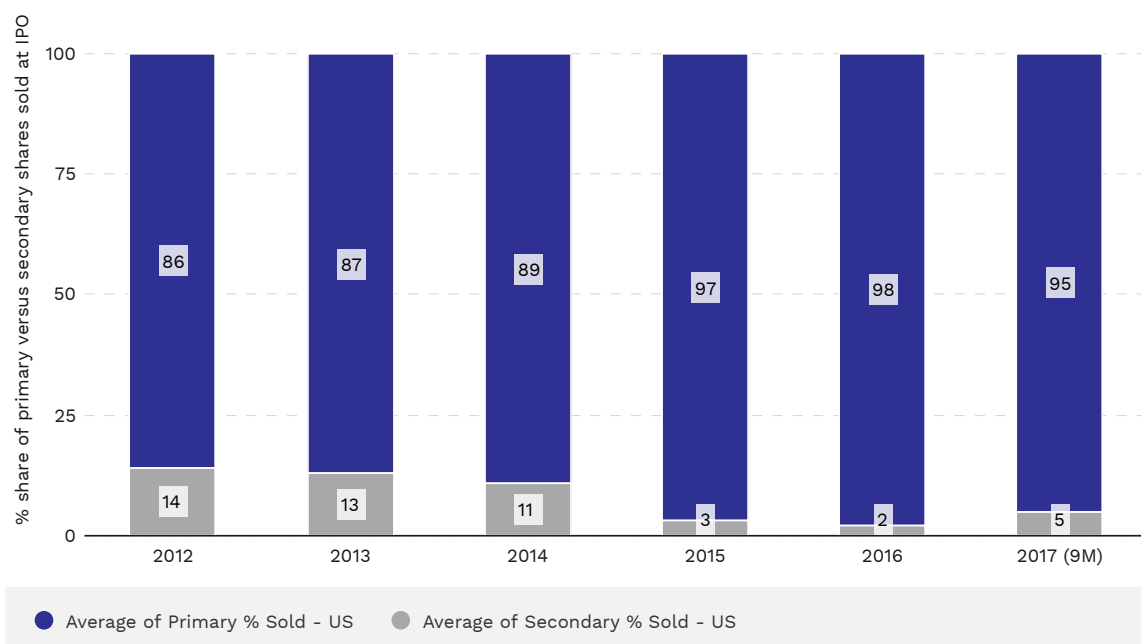
Average share of primary versus secondary shares sold at IPO by region

Europe

Average share of primary versus secondary shares sold at IPO by region



US

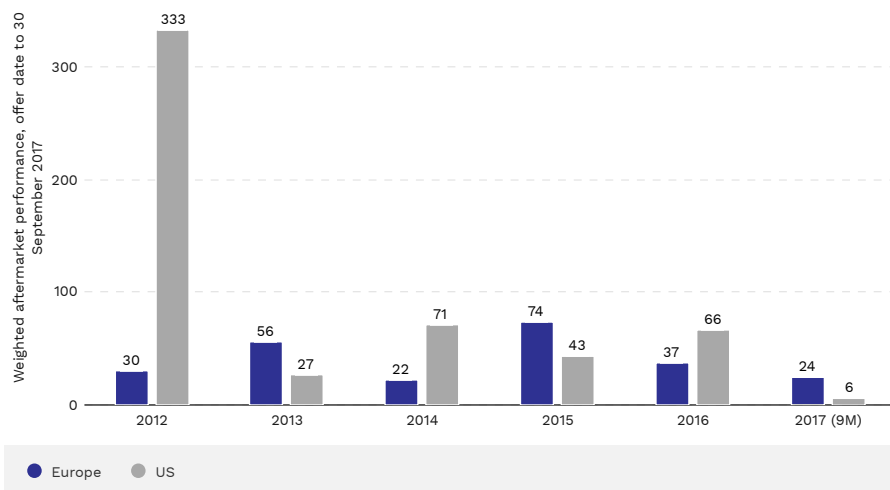


Source: London Stock Exchange

European tech has delivered another strong year of IPOs

European tech IPO vintages have often outperformed those in the US in aftermarket performance, including in 2017

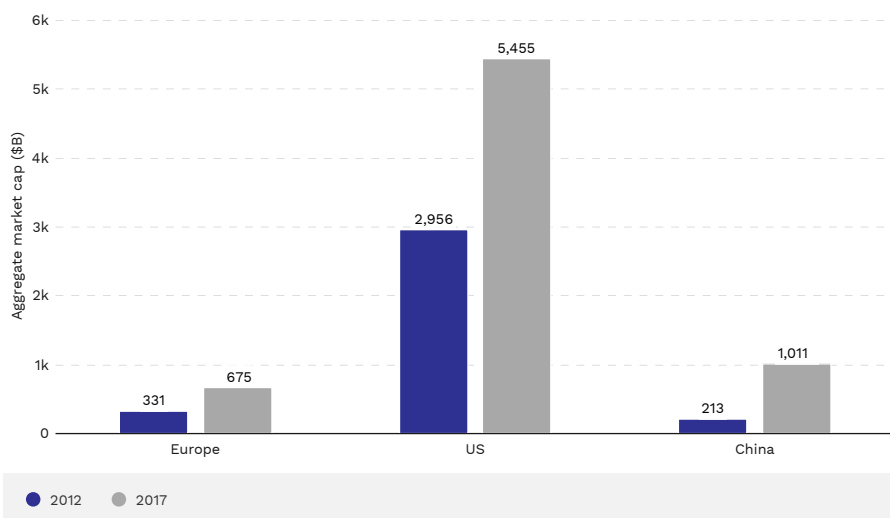
Weighted aftermarket performance of European tech IPOs by vintage year



Source: London Stock Exchange

Europe still has a long way to go. Despite adding nearly \$350B in total market value since 2012 and more than doubling the total market cap of public European tech companies to \$657B, this has been eclipsed by value creation from US and China in that period

Total market cap (\$B) of public tech companies by region



Source: London Stock Exchange

European tech has delivered another strong year of IPOs

There are no tech companies in the top 10 most valuable companies in Europe, whereas the top five from the US and the top two from China are all tech companies

Most valuable public companies by region and type

Europe: Company	Europe: Market cap (\$B)	Europe: Tech or non-tech
Royal Dutch Shell	262	Non-tech
Nestlé	261	Non-tech
Anheuser-Busch InBev	236	Non-tech
Roche	197	Non-tech
Novartis	192	Non-tech
HSBC	188	Non-tech
Unilever	160	Non-tech
LVMH	150	Non-tech
British American Tobacco	148	Non-tech
Total	140	Non-tech

US: Company	US: Market cap (\$B)	US: Tech or non-tech
Apple	873	Tech
Alphabet	712	Tech
Microsoft	642	Tech
Amazon	533	Tech
Facebook	523	Tech
Berkshire Hathaway	461	Non-tech
Johnson & Johnson	374	Non-tech
Exxon Mobil	353	Non-tech
JPMorgan Chase	349	Non-tech
Bank of America	286	Non-tech

China: Company	China: Market cap (\$B)	China: Tech or non-tech
Alibaba	473	Tech
Tencent	423	Tech
Industrial and Commercial Bank of China	317	Non-tech
China Construction Bank Corporation	225	Non-tech
PetroChina Company	216	Non-tech
Agricultural Bank of China	180	Non-tech
Ping An Insurance	170	Non-tech
Bank of China	167	Non-tech
China Life Insurance	123	Non-tech
Kweichow Moutai	117	Non-tech

Note:
Market cap as of 31 October 2017

Source:
S&P CapitalIQ Platform

Europe’s most valuable tech company is much more valuable than most people think

\$135B

market cap of SAP, Europe’s most valuable tech company



MYTHBUSTING

Taking a data-fuelled sledgehammer to some of the biggest myths about the European tech ecosystem

Part of the reason we feel so passionate about this research is the opportunity to challenge common misconceptions about European technology, and truly reflect the reality of what's happening on the ground.

Myth #1: European venture does not deliver returns

Since the dotcom era, European venture capital performance has improved dramatically

Top quartile performance (net internal rate of return) of EIF-backed VC funds by vintage year



Note: Data for VC funds raised in 2003 is not meaningful

Source: European Investment Fund

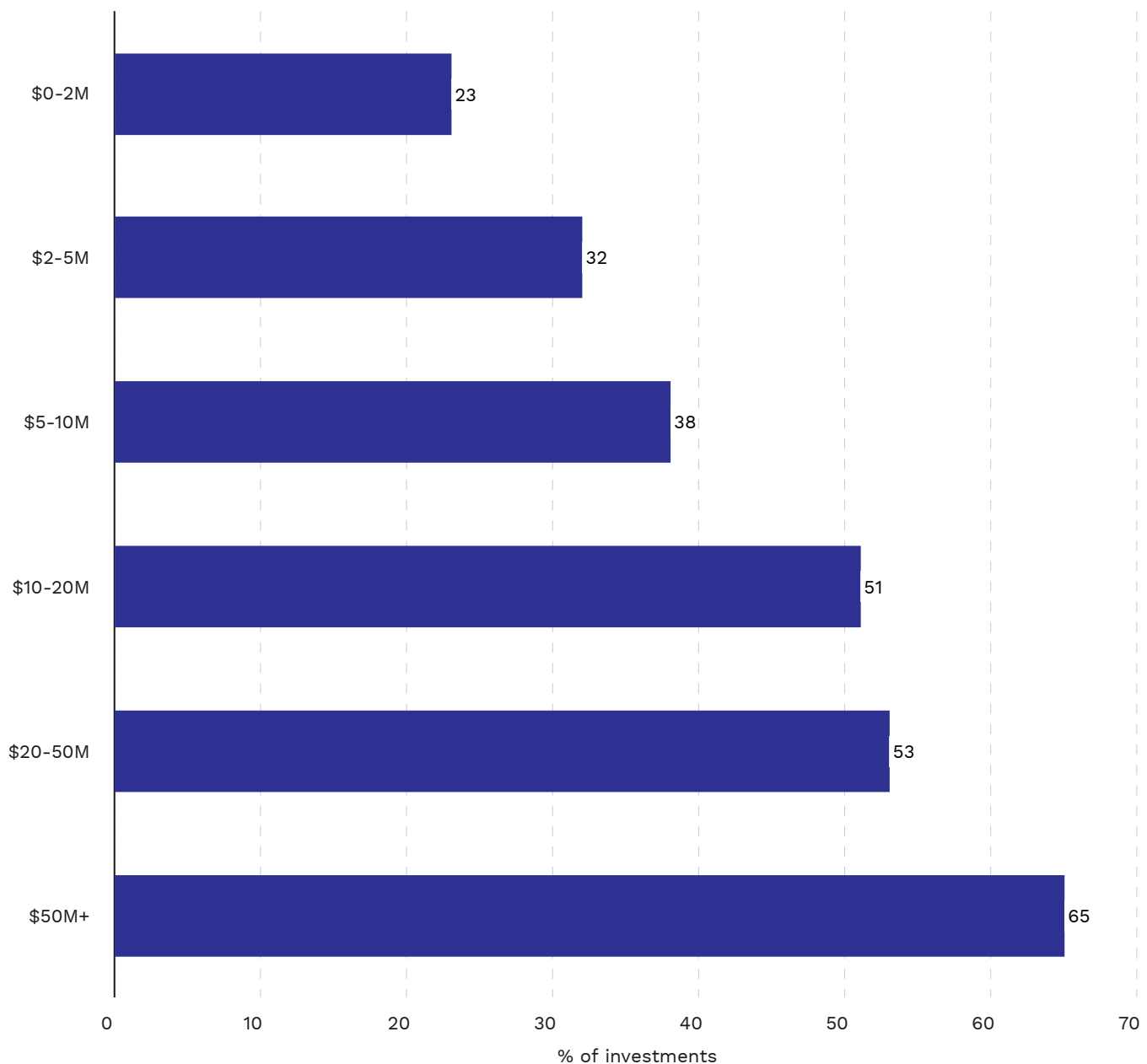


10.2

Myth #2: European VCs don't cross borders

Again, not so. For rounds of \$10M+, European VCs actually invest outside of their domestic market more often than they make investments at home

% of investments made by European VCs into international (non-domestic) companies by size of round (\$M)



● % of 2017 investment rounds

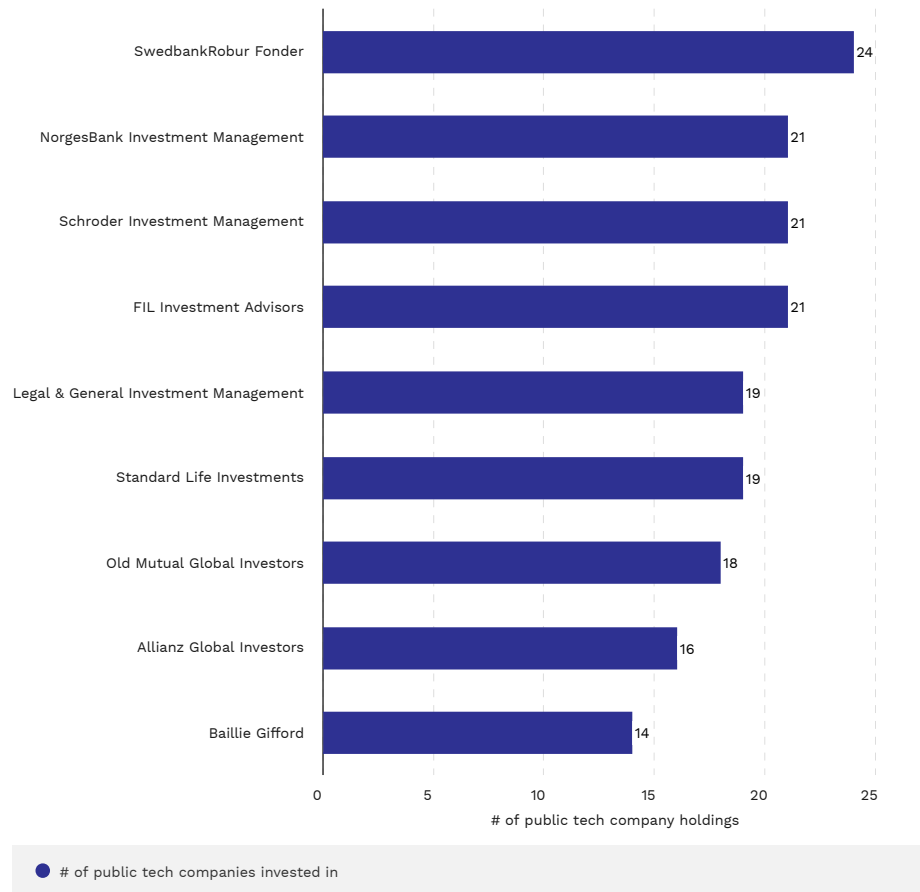
Source: Dealroom.co

10.3

Myth #3: Europe's public market investors don't get tech

Untrue. Europe is building an increasingly sophisticated base of public market investors with strong tech investment credentials

Most active public market investors in publicly-listed European tech companies



Source: London Stock Exchange



“

In recent years we have witnessed deepening sophistication of the European investor base across a range of tech sectors. We see that evidenced in London where the “valuation gap” to US competitors is no longer a factor. Tech IPOs in the US this year have seen mixed success, yet across Europe we have seen good tech companies deliver solid IPOs backed by knowledgeable institutional investors.

Nikhil Rath
London Stock Exchange PLC

”

WHAT'S NEXT

As we close the door on 2017, we cast our eyes to the year ahead

Some say that making predictions is a dangerous game, but making educated guesses based upon the latest data can be quite smart.

Having analysed the shifts and trends of European technology in 2017, here are four key trends that Tom Wehmeier, the report's author, foresees in 2018.

Predictions for European tech in 2018 from report author, Tom Wehmeier

Prediction #1

Founders will come to see regulation as a source of potential competitive advantage

The 'move fast and break things' mentality has never sat well with heavily-regulated markets. As founders realise that they can gain an advantage through regulatory compliance, it will go from being seen as a perceived handcuff to being a potential source of competitive advantage. Think of Natural Cycles, Kry or Babylon in the healthcare market. They are all early examples of companies that have embarked upon - and come out of the other side of - lengthy regulatory approval processes to gain an advantage on their competitors.

Prediction #2

A venture-backed European tech startup will exit for a \$B+ to a traditional non-tech European giant

Non-tech European corporates have already made billion-dollar tech acquisitions (Anglo-Dutch Unilever picked up Dollar Shave Club), but acquisitions within Europe have typically been in the hundreds of millions (for example, BNP Paribas and Comptel Nickel). This will change in 2018 as European non-tech corporates put some of their combined \$1.5 trillion cash holdings to work.

Prediction #3

European founders will increase efforts to tap engineering talent pools outside of traditional hubs

The battle for talent in Europe is intensifying. Not only are there more venture-backed startups that are better funded and hungrier for engineering talent than ever, but global tech giants are also expanding aggressively in the region with inflated salaries on offer for the most talented. At the same time, European corporates are fighting back, ensuring talent flows are not a one-way street into tech. In order to stay competitive in this context, European founders will look for creative ways to best exploit the untapped engineering talent pools in less obvious places. For example, we expect to see more satellite offices opening up across the region in upcoming hubs.

Prediction #4

A top-tier, established European VC will participate in a token offering/ICO

In 2017, top-tier US funds (including Andreessen Horowitz and Union Square Ventures) actively invested directly in tokens via Initial Coin Offerings. They were joined by some of Europe's newest funds, such as Blueyard. But the region's most established funds have yet to participate. This will change in 2018.

APPENDIX

The State of European Tech Report 2017: how we did it

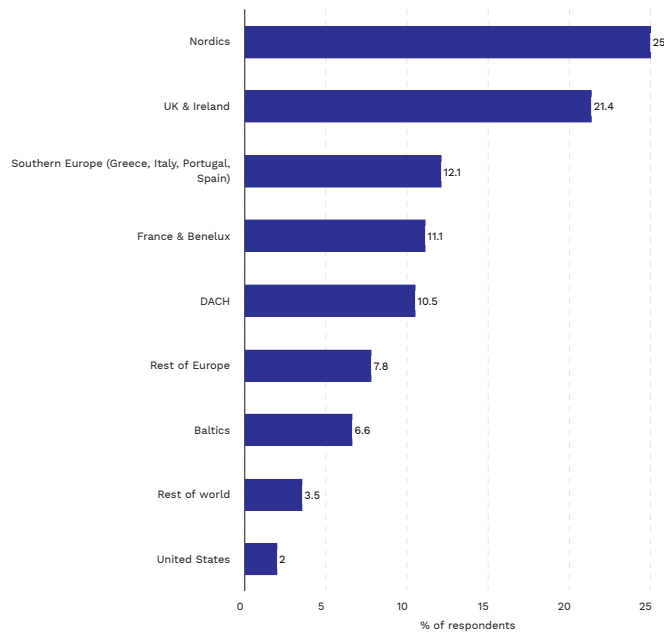
In these pages we share the methodologies behind the data in this report, including the State of European Tech Survey 2017.

Sign up to the Atomico mailing list
<http://atomico.com/signup> if you'd like to take part in next year's.

12.1

Survey respondents

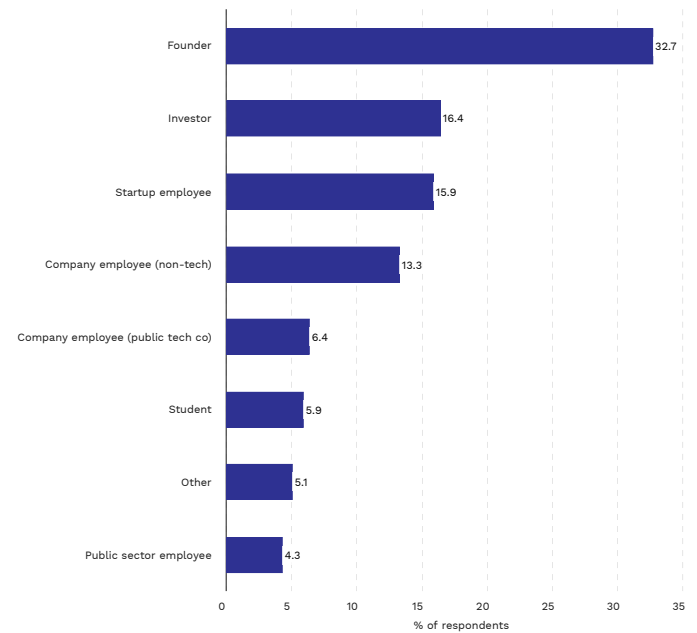
Geographic origin of survey respondents



Note: Number may not add to 100 due to rounding

Source: Survey

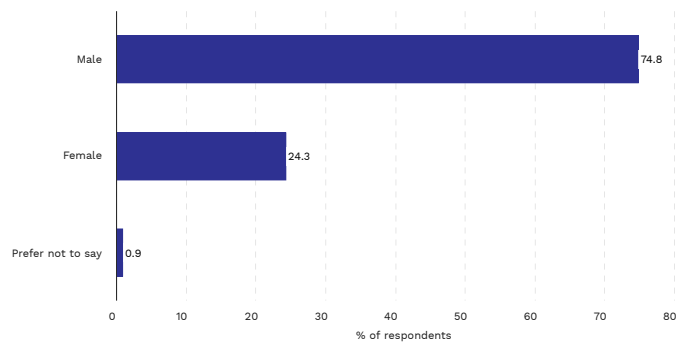
Occupation of survey respondents



Note: Number may not add to 100 due to rounding

Source: Survey

Gender of respondents



Note: Number may not add to 100 due to rounding

Source: Survey

More about our partners

About Craft

Craft is a machine-learning powered data and analytics platform building the “Source of Truth” on companies and mapping the global economy. The Company organizes financial, operating and human capital data from thousands of sources to provide comprehensive, up-to-date sector and company profiles, ranging from early-stage to the largest companies in the world.

About Dealroom.co

Dealroom.co helps corporations, investment firms and governments to track innovative companies and identify strategic opportunities, through data-driven software.

About European Investment Fund

The European Investment Fund is a specialist provider of risk finance to benefit small and medium-sized enterprises (SME) across Europe. It forms part of the EIB Group. Its shareholders are the European Investment Bank (EIB), the European Union, represented by the European Commission, and a wide range of public and private banks and financial institutions.

The EIF carries out its activities using either its own resources or those provided by the European Investment Bank, the European Commission, by EU Member States or other third parties. By developing and offering targeted financial products to intermediaries, such as banks, guarantee and leasing companies, micro-credit providers and private equity funds, EIF seeks to enhance SME's access to finance.

About Invest Europe

Invest Europe is the association representing Europe's private equity, venture capital and infrastructure sectors, as well as their investors.

Invest Europe's members take a long-term approach to investing in privately held companies, from start-ups to established firms. They inject not only capital but dynamism, innovation and expertise. This commitment helps deliver strong and sustainable growth, resulting in healthy returns for Europe's leading pension funds and insurers, to the benefit of the millions of European citizens who depend on them.

Invest Europe aims to make a constructive contribution to policy affecting private capital investment in Europe. We provide information to the public on our members' role in the economy. Our research provides the most authoritative source of data on trends and developments in our industry.

Invest Europe is the guardian of the industry's professional standards, demanding accountability, good governance and transparency from our members. Invest Europe is a non-profit organisation with 25 employees in Brussels, Belgium. For more information please visit www.investeurope.eu

More about our partners

About LinkedIn

LinkedIn connects the world's professionals to make them more productive and successful and transforms the ways company hire and sell. Our vision is to create economic opportunity for every member of the global workforce through the ongoing development of the world's first Economic Graph. LinkedIn has more than 467 million members and has offices around the world.

About London Stock Exchange

London Stock Exchange is the world's most international capital market. Over 2,400 companies from more than 90 countries are quoted across its markets, with a combined value of over £4 trillion. London Stock Exchange's markets include the Main Market – London's flagship venue for equity, debt and exchange traded products, offering businesses access to Europe's most liquid pool of capital – and AIM – the world's leading market for small and growing companies.

About Signal

Signal Media is an Artificial Intelligence company developing smart technology for smart organisations to power informed decision-making. Using the power of AI, Signal Media have created solutions that enable the real-time discovery and analysis of relevant information and news.

About Stack Overflow

Stack Overflow is the largest, most trusted online developer community for developers to learn, share their knowledge, and build their careers. More than 50 million professional and aspiring programmers visit Stack Overflow each month to help solve coding problems, develop new skills, and find job opportunities.

Founded in 2008, Stack Overflow partners with businesses to help them understand, hire, engage, and enable the world's developers. To learn more about Stack Overflow's business solutions - technical recruiting, advertising, market research, and enterprise knowledge sharing visit stackoverflowbusiness.com.

More about our partners

About Startup Europe Partnership

Established by the European Commission in January 2014 at the World Economic Forum in Davos, SEP is the first pan-European open innovation platform dedicated to transforming European startups into scaleups by linking them with global corporations and stock exchanges. By participating in the SEP program, global companies have access to the best technologies and companies with the goal of initiating business partnerships and venture corporate investments. Scaleups are exposed to qualified sales/strategic opportunities as well as funding options either via venture capital, private placements, or IPOs.

SEP is led by Mind the Bridge, a global organization based in Europe and Silicon Valley. SEP is a Startup Europe initiative. Partners include leading corporates and the European Investment Fund/ European Investment Bank Group, London Stock Exchange Group, Nesta, EBAN, European Startup Network, The ScaleUp Institute. For more info: <http://startupeuropepartnership.eu> | @sep_eu

About Quid

Quid is software that reads millions of documents and offers immediate insight by organising that content visually. We power human intuition with machine intelligence, enabling organisations to make decisions that matter. For more info: <https://quid.com/>

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