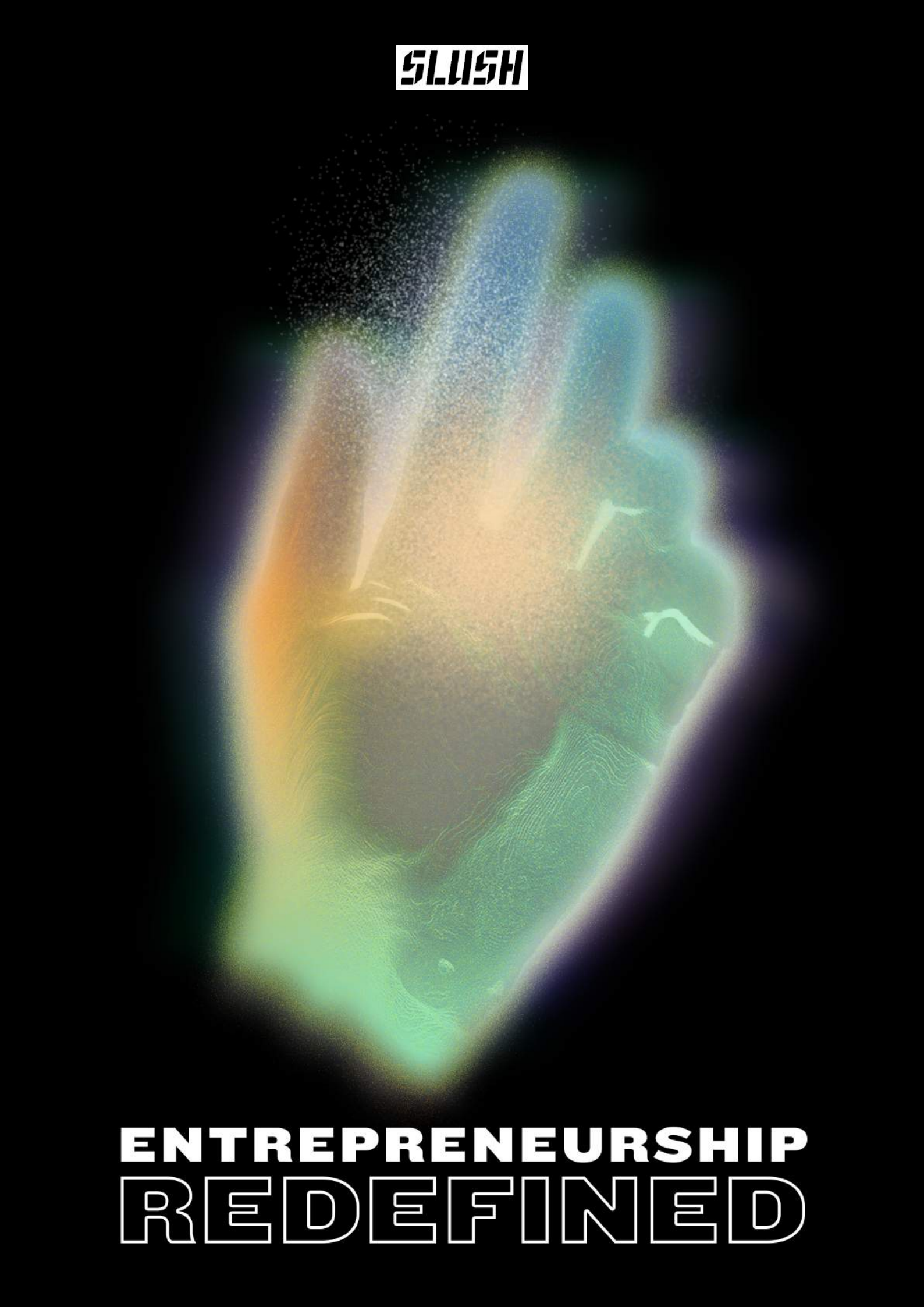
SLUSH



ENTREPRENEURSHIP REDEFINED

INTRODUCTION

There's a lot to be proud of in the European startup ecosystem. In the past decade, Europe truly came of age, with companies like Spotify, Adyen, and Supercell leading the way. To date, we have seen over 170 European tech companies scale to a valuation of over $1B and got to witness soaring levels of investment year after year. In addition, top investors from Asia and the US increasingly participate in European rounds and seem to be here to stay. These are clear signs of a vibrant ecosystem.

However, there is no cause for complacency. Sizable inefficiencies and inequities still keep Europe from reaching its full potential.

As the world is going through turmoil, the time is ripe for some introspection. Now more than ever, the world needs founders; people who embrace uncertainty, see patterns in chaos, and fearlessly build technologies that take humankind forward. To maximize the depth and scale of these technologies, we need to address the shortfalls of the last decade. In short, we need to **redefine entrepreneurship.**

We believe that **diversity** enhances and expands the ecosystem's problem-solving capacity. People working in European tech still represent a very limited subset of the continent's population. This holds true across a number of factors, including gender, ethnicity, education, and income level. What's more, Europe still struggles with the very basics of inclusion. All too many people that fall outside of tech's narrow norm feel like their background or identity is a barrier to success in the ecosystem. This has to change. In the end, people are only able to design products for the problems that they can see

We believe that the next generation of founders and talent is driving a shift towards **purpose.** Unfortunately, the term impact is diluted and often misunderstood, when in reality, every company has an impact. What matters is the net of all outputs to the external world. Companies that acknowledge their greater responsibility towards shareholders, employees, society, and the planet will attract the brightest talent and emerge as the winners of the next decade.

We believe that entrepreneurs, academic researchers, government officials, and creatives should work together instead of in silos to generate the **revolutionary innovation** that humankind desperately needs. Without exception, history teaches us that true innovation is the outcome of a collective effort. We need ways to increase and elevate encounters and collaboration between different groups. Europe has tremendous unexplored potential to produce cutting-edge technologies based on discoveries in engineering, physics, medicine, and beyond.

In this new era of uncertain times, Slush exists to create and help founders change the world, and to shape the entrepreneurial tomorrow in Europe and beyond.

I hope you enjoy this whitepaper!

On behalf of the Slush team,
Miika
CEO

CONTENTS

REDEFINING ENTREPRENEURSHIP WITH

In publishing this report, we are joined by these 16 European scaleups, all of which live up to the thematic of the report. They are some of the inspiring European growth stories that are going to be leading the way towards a more diverse & inclusive, purpose-driven, and technologically revolutionary European future.

DATA PARTNER:

dealroom.co

WHY THIS MATTERS

"At Accel, we strive to work with founders who are building iconic, enduring businesses. That requires a certain culture, which provides the emotional fabric that enables and empowers high-performing teams. These cultures are often mission-driven and underpinned by values of diversity and inclusion. Diversity is a mindset and the Slush whitepapers show we all need to commit to a new way forward, or be left behind. This new generation of entrepreneurs are driven as much by their core mission as they are by the need to create shareholder value. Neither they nor we see a reason to compromise between the two."

– SONALI DE RYCKER, PARTNER

Accel

"I believe that Diversity and Inclusion is about capturing opportunities, and ensure as investors that companies are formed with diversity at the outset. It's already proven as the most successful strategy for high-performing teams. Slush's whitepaper gives us clear data about what's happening in the ecosystem. It's time for us to act."

– PÄR-JÖRGEN PÄRSON, GENERAL PARTNER

NORTHZONE

"The last five years have proven that not only can Europe do tech, we can do it on our own terms. Furthermore, the current crisis has highlighted how critical the success of European tech is for the region's economy as a whole. Now is not the time to rest on our laurels. We need to create a more diverse and inclusive ecosystem, strengthen ties between private and public sectors, and embrace a purpose-driven approach to building and scaling. Forums such as Slush are key building blocks of this ecosystem of tomorrow. We may not be able to meet in Helsinki this year, but that does not mean that European tech does not have to take its eyes off the stars."

– TOM WEHMEIER, PARTNER

atomico

"The coronavirus crisis and the recent killing of George Floyd have served to illustrate the deep inequalities and systematic nature of racism in western society. Despite its huge growth and success, the European startup ecosystem has lagged on every metric associated with diversity and inclusion. We must commit to drive change in our communities and our businesses – we're at a point where we need to stop being allies and start being accomplices. We must hold each other accountable for meaningful change and transformation."

– GREG WILLIAMS, EDITOR-IN-CHIEF

WIRED UK

WIRED

"I have no doubt we'll see radical innovation over the next decade, particularly in machine learning, crypto / blockchain and digital health. Technology produced by world-class researchers and practitioners across Europe is defining new industries – fostering an ecosystem to support these advances is one of the most important things we can do."

– TOBY COPPEL, CO-FOUNDER AND PARTNER

Mosaic Ventures

"All founders out there are trying to put their dent in the universe, to change the world in some way. Purpose has positive, sometimes non-obvious benefits for example in attracting key talent or retaining customers. As a VC we are slowly discovering how we can balance profit- and purpose-seeking in our ventures, as stewards of the capital entrusted to us."

– JAN MICZAIKA, PARTNER

HV

"EU is leading on the innovation to fight against coronavirus while redefining entrepreneurship and innovation. EUvsVirus shows how revolutionary innovation can succeed when the whole innovation ecosystem works with the civil society taking advantage of European diversity. It is one example of how the European Innovation Council works with mission-driven innovators and builds rich and diverse communities."

– JEAN-ERIC PAQUET, DIRECTOR-GENERAL

DG RESEARCH AND INNOVATION, EUROPEAN COMMISSION

European Commission

"Purpose, rather than a badging exercise, needs to be ingrained from the beginning if early-stage businesses are to compete on a global level and speak to today's more discerning customer. The way we consume is shifting fast. Digital innovation is coming to life across sectors, from how we attend events to the way we exercise at home. Right now, as we rethink the way we lead our own lives, companies changing the way we live, interact and buy are truly having their moment."

– RESHMA SOHONI, FOUNDING PARTNER

Seedcamp

"The Covid-19 crisis is accelerating the future and forcing us to rethink the way we run our societies, economies and lives. Many of the best ideas about how to reshape our world are coming from an emerging generation of European entrepreneurs, focusing on social inclusion and purposeful innovation, as highlighted in Slush's whitepapers."

– JOHN THORNILL, FOUNDER, EDITORIAL DIRECTOR

sifted / backed by FT FINANCIAL TIMES

"Lakestar is a strong supporter of the European tech ecosystem. We believe in Europe. However, the landscape and what it takes to be a successful entrepreneur is changing. The next generation of groundbreaking founders will be more diverse than what we have seen in the past, and guided by a deeper urge to change the world for the better."

– MIKA SALMI, MANAGING PARTNER

LAKE STAR

"People with another background than yourself will naturally broaden your team with additional experiences, an outside perspective, and a different problem-solving mindset. If companies don't take action on diversity, they will miss out on real assets. This is also why diverse teams ultimately yield higher returns. With this in mind, it is surprising that limited partners are not actively demanding more diverse investments from VCs."

– SUSANNE NAJAFI, FOUNDING PARTNER

BackingMinds

"Slush's whitepaper clearly states how the lack of diversity is harming our ecosystem. Diversity is not just "a nice thing to do", it should be part of a rational and calculated business decision as research clearly shows that diverse teams perform better leading to long term outperformance. We as an investor recognize it and demand to include diversity clauses in the investment documentation."

– AGATE FREIMANE, GENERAL PARTNER

<norrsken> >C

"You can't lead others if you cannot lead yourself. Self-leadership requires a compass, which is hardly available around the corner. Hence, developing and understanding one's individual purpose is the foundation that allows an entrepreneur to shape our European future. The purpose of a business is made up of the individual purposes of the entrepreneurs within the team."

– CHRISTIAN NAGEL, CO-FOUNDER AND PARTNER

>_ EARLYBIRD

"As an early stage VC fund, we're acutely aware of the need for, and benefit of promoting diversity across all stages. We strive to do our part and transform theory into action by maintaining an equal gender split across our investment team, and tracking diversity metrics across our group of portfolio founders, whilst also working closely with them on prioritising gender diversity in the build-out of their own leadership teams. That said, we recognise that there is much more to do on the diversity front – going beyond gender and race – and always endeavour to improve."

– SPENCER CRAWLEY, CO-FOUNDING GENERAL PARTNER

firstminute capital

"If Silicon Valley was the first ecosystem to normalise the idea of entrepreneurship as a high-impact, high-prestige career choice, Europe is quickly catching up. We're seeing an overdue cultural shift in what it means to be a founder, who the entrepreneurial path is for, and what the scale of impact that can be achieved is. As exceptionally talented, mission-driven founders continue to enter the European ecosystem in force, the potential for revolutionary innovation on a global scale grows exponentially. This is important for economies and societies, because it truly matters what the world's most talented individuals apply themselves to."

– MATT CLIFFORD, CO-FOUNDER AND CEO

ENTREPRENEUR FIRST

"Slush says it well: Each and every company has an impact. This whitepaper serves as an important — and necessary — reminder for founders and investors to assess and measure how they can instill greater, more global change via purpose-driven entrepreneurship."

– CHRISTIAN MEERMANN, FOUNDING PARTNER

CHERRY

"Slush is synonymous with the next generation of entrepreneurs. The whitepaper paints a well-rounded picture of the future that this new generation will be driving for. Therefore, it is a careful 'must-read ' for everyone who wants to understand the tech leaders of tomorrow."

– TIMO AHOPELTO, FOUNDING PARTNER

LIFE LINE VENTURES

"In seeking to solve the world's greatest problems by inventing bold new technologies, moonshot companies face a marathon, not a sprint. Just as today's tech infrastructure seemed like a pipe dream a few decades ago, deeptech such as electric airplanes, self-driving trucks, and mixed reality could one day become part of everyday life – but it takes time. As an investor, I try to consider the current stage of the technology and research because the ones in the right inflection point will enjoy explosive growth and transform industries. The race is on."

– TED PERSSON, PARTNER

EQT VENTURES

"There is a profound causality between diversity of founding teams, startups solving the world's most pressing problems, and the performance of these teams and their companies. This has been established in international studies, and the deeper the insights and transparency we get around this, the better. Slush's work on this is catalytic as they have unique access to first-hand founder data through their extensive community in the Nordics and beyond. Unconventional Ventures is a proud supporter of Slush on creating a deeper understanding and enlightening the ecosystem."

– THEA MESSEL, FOUNDER, MANAGING PARTNER

UNCONVENTIONAL VENTURES

"During my years as the Chairman of Slush, I had a front-row seat to witness European tech rise and flourish through big ideas and global community. Europe has always been a melting pot of different cultures and has long traditions of higher education and research. Now it's time to capitalize on our strengths and live up to this heritage: Maki.vc will – with fellow investors, universities and industry giants – continue supporting European moonshots and category-definers that are meant to last for centuries."

– ILKKA KIVIMÄKI, PARTNER

MAKI.VC

20 PREDICTIONS FOR THE 2020s

TO ADD A NOTE OF PRAGMATICISM AROUND OUR TOPICS, WE GATHERED 20 PREDICTIONS FROM THE SLUSH TEAM ON WHAT THE 2020S WILL LOOK LIKE.

1
Work done in a startup during the 2020s will be awarded a Nobel Prize down the line.

2
One of the five most heavily funded industries in 2030 will be one for which the term hasn't been invented yet.

3
By 2030, we will speak of online startup hubs alongside physical ones.

4
In 2030, the most valuable company by market cap in Europe will be a technology company. That company isn't a unicorn yet.

5
The biggest European VC-backed exit during the latter half of the decade will be from a deeptech company that has already been founded.

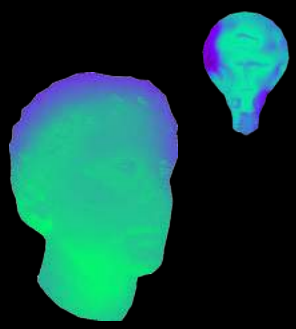
6
The latter half of the 2020s will finally be characterized by the explosion and democratization of quantum computing.

7
During the 2020s, humans will return to the moon and land on Mars. The technology for these missions will be built by the private sector.

8
The pushback against big tech will move from dissent to action. A number of the existing incumbents will be broken up.

9
Driven by automation, and the mass displacement caused by COVID-19, a third of European countries will have implemented some form of Universal Basic Income by the end of the decade.

10
The average length of a tertiary education degree will decrease in Europe's most educated countries.



11
In 2030, 50% of European STEM graduates will be women.

12
Mobile will face serious competition from an alternative hardware platform.

13
By 2030, a third of the European startup workforce will be working remotely.

14
Driven by exploding rent prices and improving options to work remotely, towards the end of the next decade, Europe's biggest cities will start to see counterurbanization.

15
Enabled by low-code, the ratio of engineers and developers to designers and product managers in tech startups will reach 1:1 by 2030.

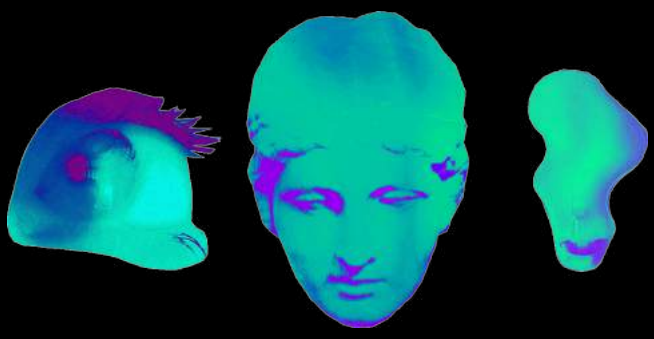
16
In 2030, we will no longer speak of 'impact companies'.

17
The time to unicorn in Europe will be extended significantly, as a path to profitability, rather than growth, will increasingly become the basis for late-stage valuations.

18
By the end of the decade, there will be a standardized metric for net impact and it will permanently change the way investors assess companies.

19
Women in junior positions will make their way through the ranks at VC funds. By the end of the decade, a third of partners at European funds will be women (2019: 13%). On the back of this, a third of funding will go towards mixed or all-female teams (2019: 8.4%).

20
The 2020s will see the world grappling with diminishing returns across factions of society, from economic growth to technological innovation and scientific discovery. The solutions that humanity finds will pave the way for a new Renaissance in the 2030s.



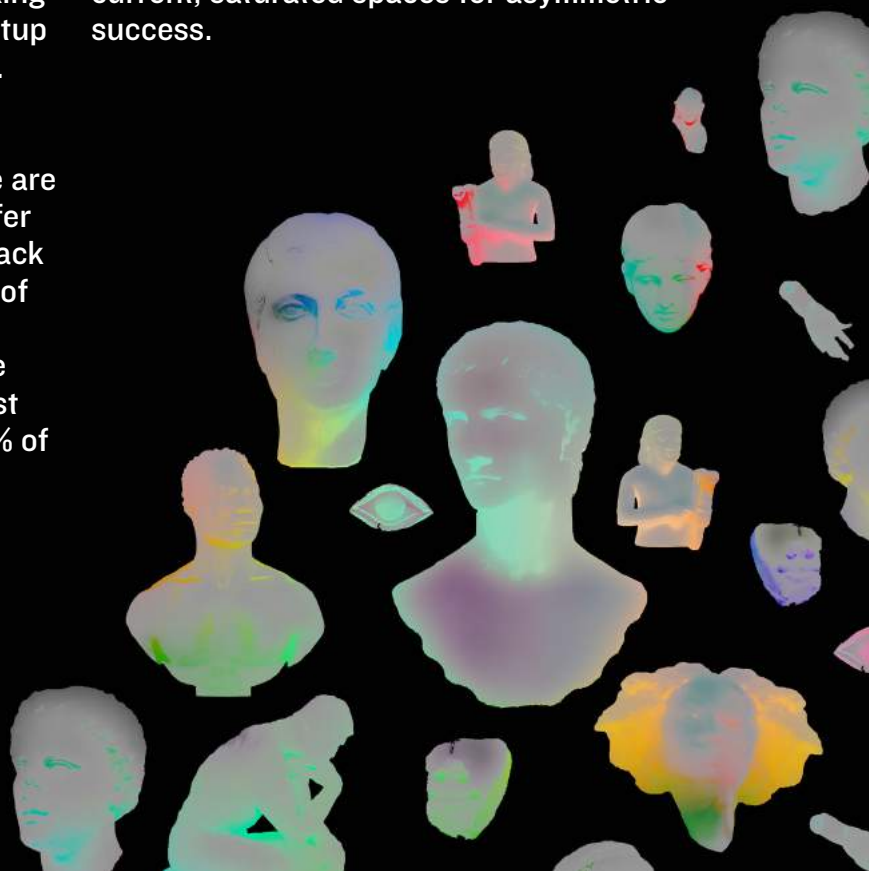
EXECUTIVE SUMMARY

DIVERSE & INCLUSIVE FUTURE

People working in European tech overwhelmingly agree that diverse teams perform better. Meanwhile, data paints a scathing picture of the current state of things, and shows that recent progress has been minimal. European tech involves a narrow subset of the continent's population by any measure of human heterogeneity. This discrepancy originates elsewhere in society; in childhood gender norms, in education that pushes stereotypical career paths, and in societies that don't offer social mobility. However, instead of making the best of a biased talent pool, the startup ecosystem heightens these inequalities.

Importantly, diversity is hollow without inclusion and equal opportunity, and we are failing miserably at both. Those that differ from tech's constricted norm are held back and marginalized. A homogeneous pool of investors is turning a blind eye to them, choosing to fund solutions that hit close to home, and founders who look like past heroes. Even worse, in a given year, 50% of female and 40% of non-white tech employees will face discrimination while working in the ecosystem. This discrimination takes a myriad of forms.

The bottom line is that people are oblivious to problems that don't concern them directly. The 2020s present a huge opportunity for young ventures to tap into underexplored verticals and customer segments. Past patterns of success will break down, and investors will have to look beyond current, saturated spaces for asymmetric success.

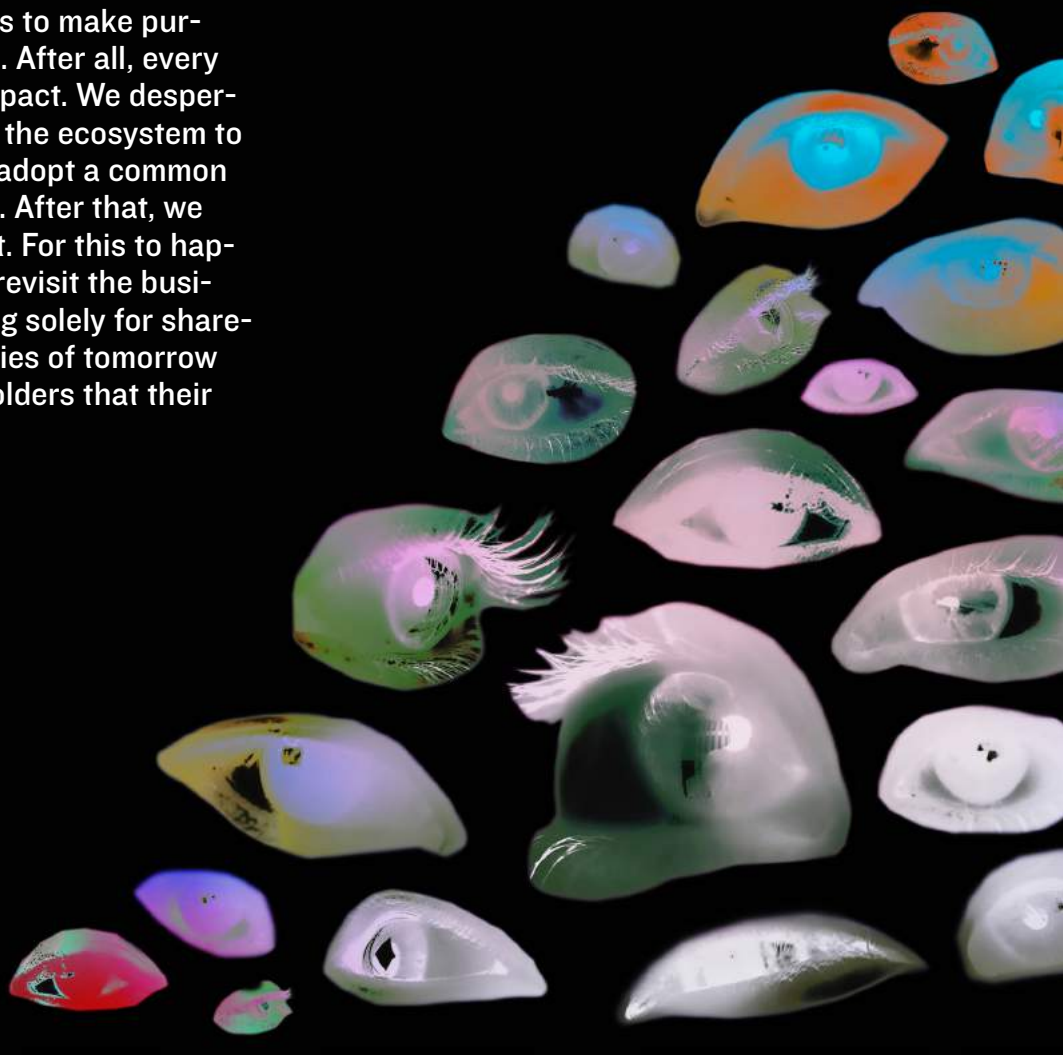


PURPOSE-DRIVEN CHANGE

The 2020s will be characterized by a new generation of European founders and talent that is ambitious to address humankind's most consequential issues. Globally, Europe will establish itself as the focal point of purpose-driven entrepreneurship. In 2019, we saw investors adopting the purpose-driven thesis en masse, with investments growing more than two-fold year-over-year. However, a lack of mandate from limited partners still forces VCs, particularly in the later stages, to steer clear.

At the same time, it's not enough for a minority of young ventures to make purpose core to their mission. After all, every single company has an impact. We desperately need all members of the ecosystem to acknowledge this, and to adopt a common standard of measurement. After that, we need to act on that impact. For this to happen, we may just need to revisit the business doctrine of optimizing solely for shareholder value. The companies of tomorrow will be built for all stakeholders that their actions affect.

Lastly, our efforts will be vain if we fail to create companies that last. Compared to the giants of Asia and the US, Europe still lacks a big tech company. Much of the recent explosion in European venture capital has gone towards chasing less risky returns in the last mile of expanding digital companies in saturated spaces. While the exit markets have rewarded the champions of this ethos with lofty returns, the path to sustained, massive businesses looks muddier than ever. We need to work from first principles to rectify this.



REVOLUTIONARY INNOVATION

During this decade, the tide of incremental digital solutions will wane in favor of revolutionary innovation. After all, you can only replicate the proven consumer internet business models in so many verticals. At the same time, recent technological advancements have left us desperately short of the future we were told of. Nuclear fusion, quantum computing, and general AI have been almost here for decades. With each passing year, humanity needs them more urgently.

To enable deep innovation, we need a world of effortless collaboration across traditional boundaries, where all lines of human ingenuity are applied to the utmost. Startups need to work together with universities, corporations, and governments to maximize the pace of advancement. Revolutionary technologies are also ripe for ethical conundrums, and as we've seen, the moral compass of entrepreneurs alone is insufficient. We need governments to put in place regulation that mitigates risk, without stifling innovation.

Amid all this, venture capitalists struggle to reconcile ten-year fund cycles and cautious limited partner mandates with funding complex technologies, which are difficult to judge, expensive to develop, and slow to materialize. As a result, deeptech ventures often turn to other means of funding, like government grants and corporate investors. However, these alone won't be enough. We need some overdue back-end innovation and diversification in what venture capital funds look like.

ABOUT THE WHITEPAPER

Together, these topics define Slush's view of how companies in the 2020s should look different from those of the decade gone by. Amid Europe's stellar rise, it's been easy to forgo engaging with the inefficiencies and disparities that hold our ecosystem back. Now, as that rise has ground to a temporary halt, it's time to have these difficult discussions. That's why we wrote this paper.

However, the whitepaper doesn't just convey Slush's own views. The argumentation is based on 60 anonymous interviews with some of the most foresighted founders, investors, and operators in European tech. Speaking anonymously, these people gave us a unique view into their honest criticisms, hopes, and aspirations. We've sprinkled a number of quotes from these interviews throughout the text.

Lastly, the whitepaper is based on three avenues of novel quantitative research:

- A wealth of analysis of the various data sets that we gathered in relation to Slush 2019. These include:

  - Company data on the 3,500 startups and 2,000 investors that got accepted to the event
  - Individual data on the nearly 10,000 people who attended the event from these entities
  - Meeting data on the 10,000 pre-booked meetings that these people engaged in with one another

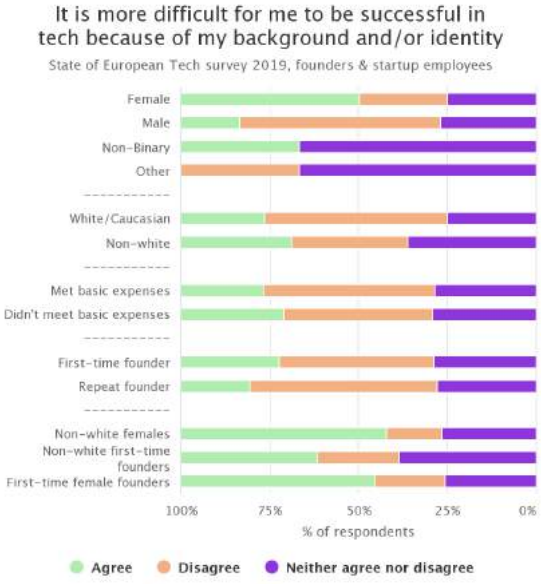
- A new look at the 5,000 survey responses that we collected for State of European Tech in 2019.

- Novel data that we've generated together with our data partner Dealroom on the European ecosystem.

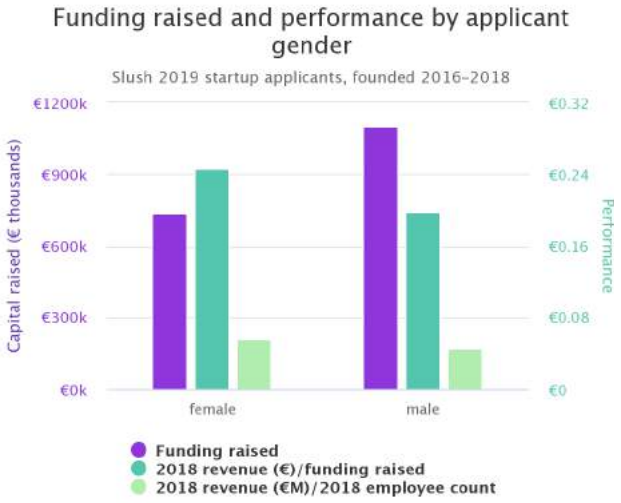
KEY FINDINGS

1 – A VARIETY OF IDENTITIES AND BACKGROUNDS REMAIN BARRIERS TO SUCCESS IN TECH

We revisited the State of European Tech 2019 survey data, finding that, across a number of factors, those who differ from tech's narrow norm find it more difficult to thrive in the ecosystem. Where people represent more than one marginalized group, these barriers compound.



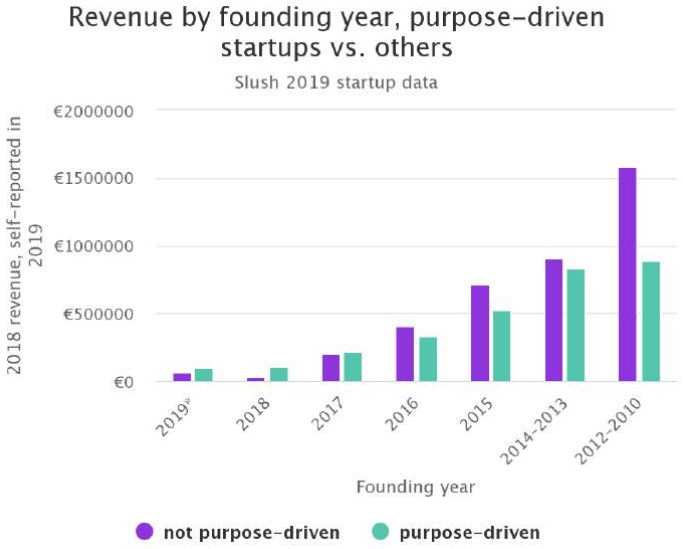
2 – DIVERSE TEAMS PERFORM BETTER, BUT REMAIN UNDERFUNDED



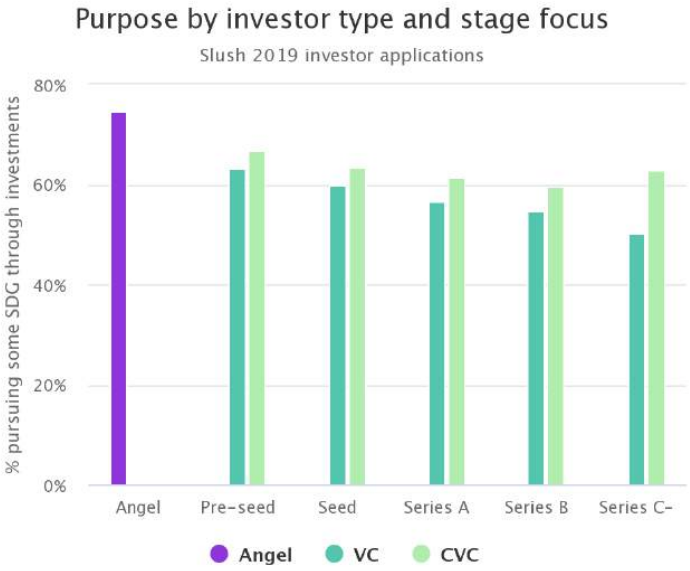
In the cohort of 3,500 startups that visited Slush in 2019, companies whose application was submitted by a woman (usually one of the founders) had received less funding on average, but done more with the money, generating more revenue per euro of funding and per employee. This shows that investors are still looking the other way, and missing out on great opportunities as a result.

3 – DOING GOOD HAS BECOME GOOD BUSINESS

Out of the 3,500 startups that attended Slush in 2019, companies founded in 2017–2019 that pursue purpose as a core aspect of their product generate more revenue than their counterparts. The tables truly have turned in favor of doing good.



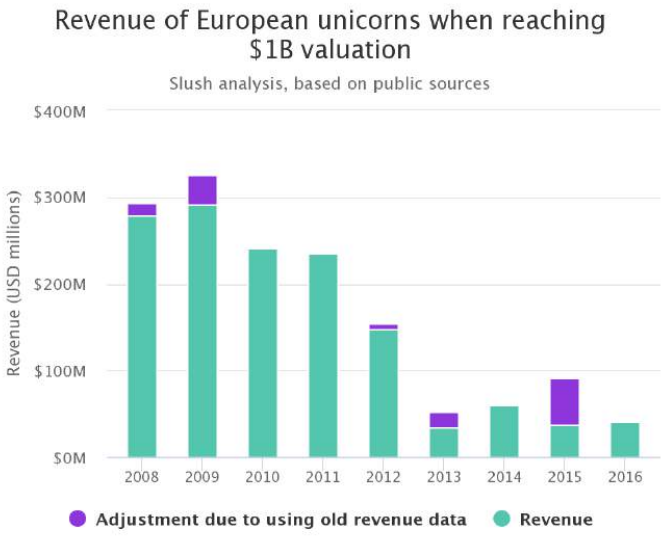
4 – THE PURPOSE-DRIVEN INVESTMENT ECOSYSTEM IS BEING BUILT FROM THE BOTTOM UP



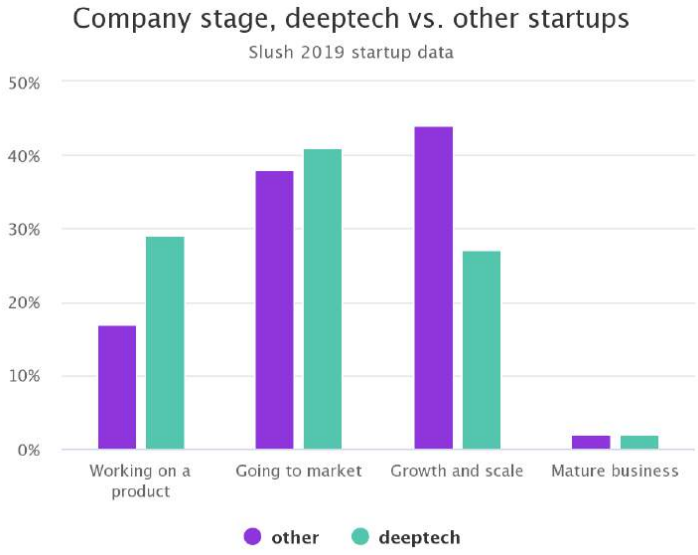
We looked at the nearly 1,200 venture capital funds, corporate investors and angels at Slush 2019, finding that angels and CVCs are more likely to report a commitment to one of the United Nations Sustainable Development Goals. What's more, a purpose-driven thesis is more prominent among investors focused on earlier stages. This indicates that VCs still struggle to reconcile LP pressure and 10-year fund cycles with funding companies that address humankind's most momentous challenges.

5 – UNICORN VALUATIONS HAVE BECOME SIGNIFICANTLY MORE SPECULATIVE

In the most granular look at European unicorns to date, we found that, towards the end of the past economic cycle, the revenue that companies generate in the year of their billion-dollar valuation has been slashed into a fraction of what it was previously.



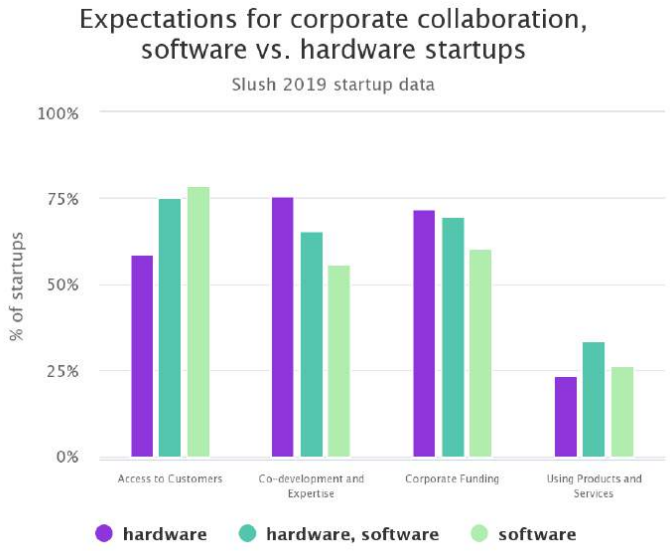
6 – DEEPTECH IS QUANTIFIABLY SLOWER TO MARKET

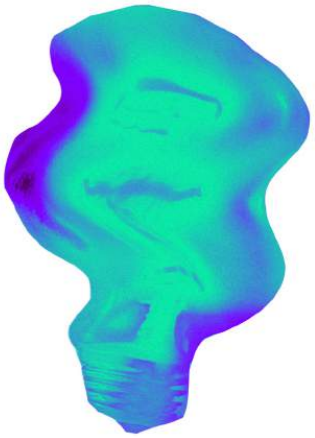


We used a combination of keyword, industry and manual analysis to recognize deeptech ventures among the 3,500 startups at Slush 2019. These represented 30% of the startup population. Despite being of the same age on average (2.6 years), far fewer deeptech companies had reached the scaling phase of their journey.

7 – IN CORPORATE COLLABORATION, HARDWARE STARTUPS LOOK FOR CO-DEVELOPMENT AND EXPERTISE

Roughly two thirds of startups at Slush 2019 filled out a separate application about the way in which they wish to engage with corporates at Slush. According to that data, software startups are primarily looking for market access, while hardware companies prioritize co-development and expertise.





NARRATIVE 1

DIVERSE & INCLUSIVE FUTURE

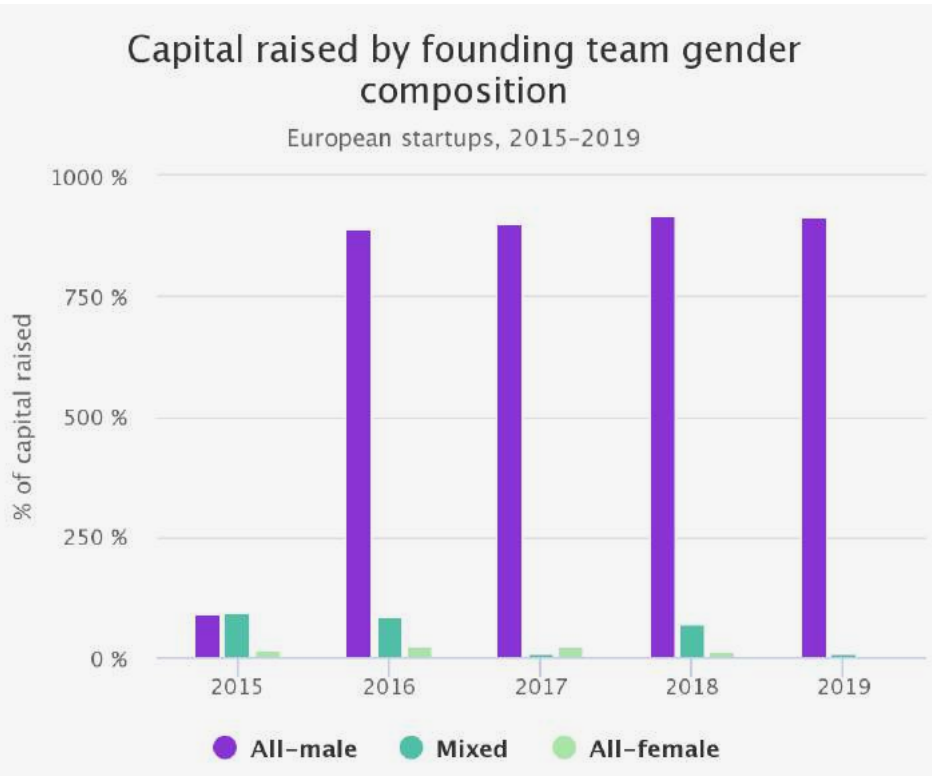
NARRATIVE 1

DIVERSE & INCLUSIVE FUTURE

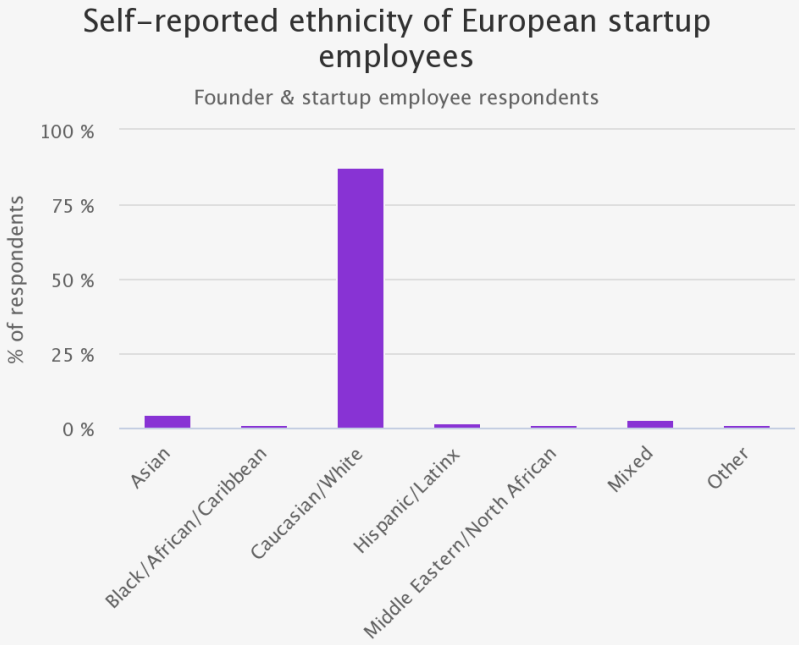
Diversity and inclusion have received their fair share of attention in the ecosystem over the past few years, and for good reason. Last year, our joint research piece with Atomico, State of European Tech, showed that 78% of founders and 84% of VCs agree that "the focus on creating a more diverse and inclusive European tech ecosystem is important".

At the same time, founders and employees of European tech startups took a pretty grim view of the current state of things. Only 17% of women and 29% of men thought that the "ecosystem provides equal opportunity for people of all demographics, backgrounds, and experiences". Across genders, 34% of those who lived comfortably prior to founding their company agreed, contrasted with 19% of those who started from a lower socioeconomic footing.

These sentiments are not just conjecture; all-male teams received 92% of the continent's total venture funding in 2019, with regressive development over the past five years. Shockingly, all-female teams raised just three of the 745 reported rounds of over $10M in Europe in 2019. This is not reflective of the wider founder pool. 21% of founders that responded to the State of European Tech survey in 2019 self-identified as women.



All Dealroom.co data excludes the following: biotech, secondary transactions, debt, lending capital, grants. Please also note the data excludes Israel. 2019 annualised based on data to September 2019.



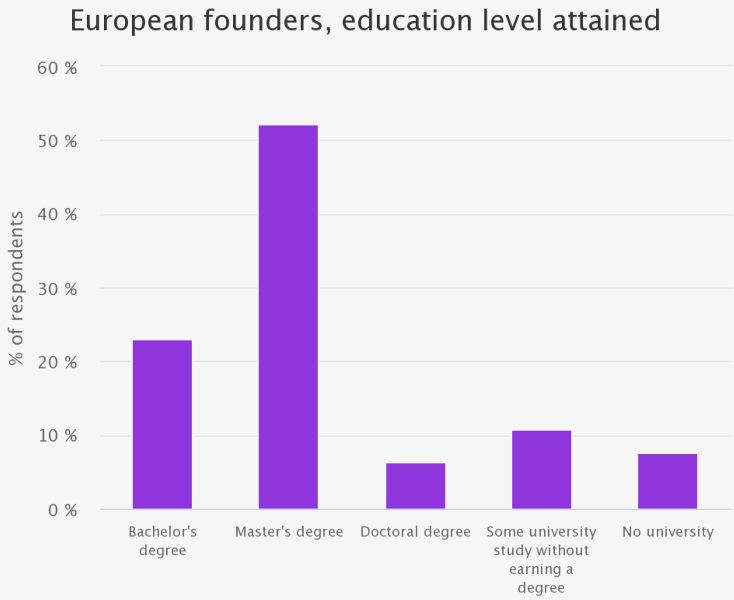
Excludes respondents that indicated 'Prefer not to say'. European founder and startup employee respondents only.

The State of European Tech Survey

The homogeneity of the European ecosystem is evident along a plethora of other axes as well.

According to the 2019 State of European Tech survey, more than 7 in 8 people working for European startups self-identify as Caucasian or White.

Out of founder respondents to the same survey, 82% had received a university degree, and just 8% had never enrolled at university. This is not representative of the European population. According to Eurostat, the share of the EU-28 population aged 25–54 that has attained a tertiary degree or higher is 35%.



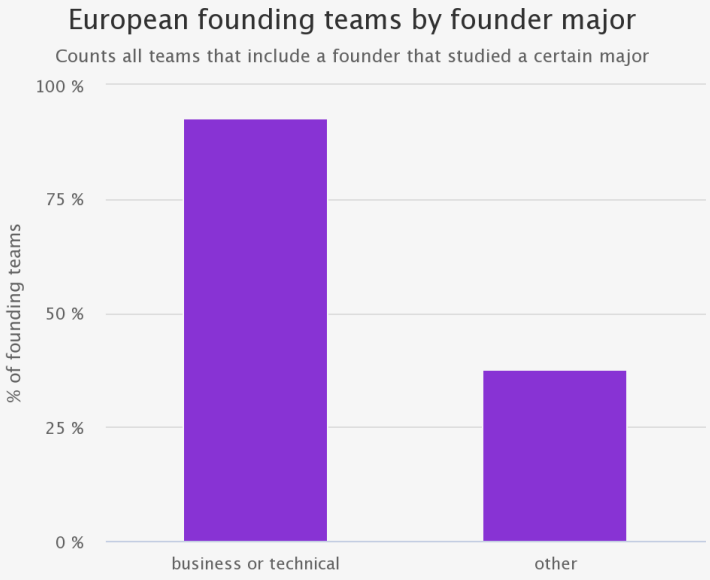
Options stacked together.

The State of European Tech Survey

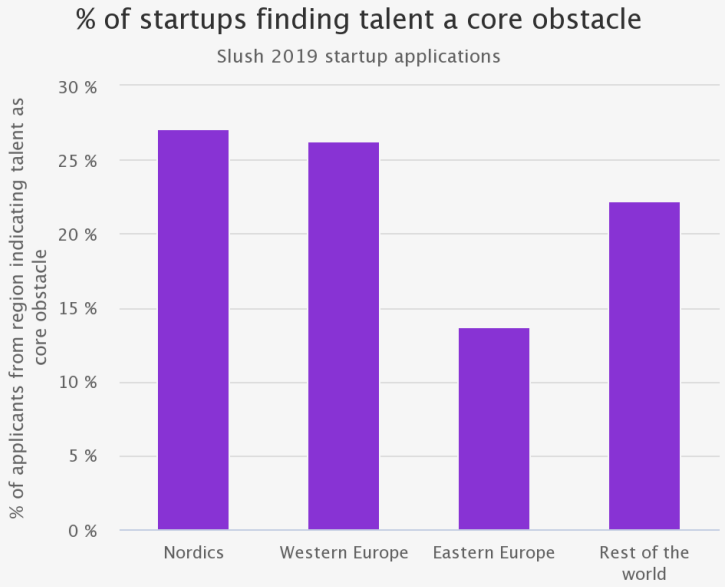
Within the founding teams that feature a university graduate, the demographic is further skewed towards select fields of study. 93% of these teams include a founder who received a technical or business degree, whereas only 36% feature a founder who studied some other major. According to Eurostat, this compares to just 43% of European tertiary education graduates in 2017 that were from technical, business or legal programs.

In other words, while most of us are on the same page about the need for increased diversity, European founders still represent a very specific subset of the continent's population, and opportunities are unequal within that subset.

At the same time, Western and Northern Europe face a persistent talent problem, as indicated by the high percentage of Slush startups listing talent among their biggest challenges.



All Dealroom.co data excludes biotech. Please also note the data excludes Israel. Only includes companies for which Dealroom recognizes the major of at least one founder.



Those startups that indicated 'Finding Talent' to the question: "What are the biggest challenges you are facing in terms of building your company right now?" Startups could indicate any number out of 8 options. Accepted applications only.

dealroom.co

"There is a massive lack of diversity, particularly in founding teams, in terms of educational background, gender and age."

- Operator

This gap won't be filled just by increasing the cross-border mobility of skilled people. European startups urgently need more talent in absolute terms. For that, we need an inclusive ecosystem, which embodies ideals that attract an increasing number of different kinds of people.

Notably, many of our interviewees alluded to the fact that the discussion around diversity tends to one-dimensionally focus on gender.

"Diversity is defined as something like 16 factors, but when talking about it, we tend to use origin, race or sex as proxies, because they're easier to grasp."

- Investor

This derives, at least in part, from the fact that gender is the most researched axis of diversity, and that data remains insufficient on most others. We set out on writing this whitepaper in order to provide some nuance and granularity around the topic, but for these very reasons, fell short of our targets. Much of the text will revolve around gender and, due to limitations in our methodology, we're forced to discuss it mostly in binary terms.

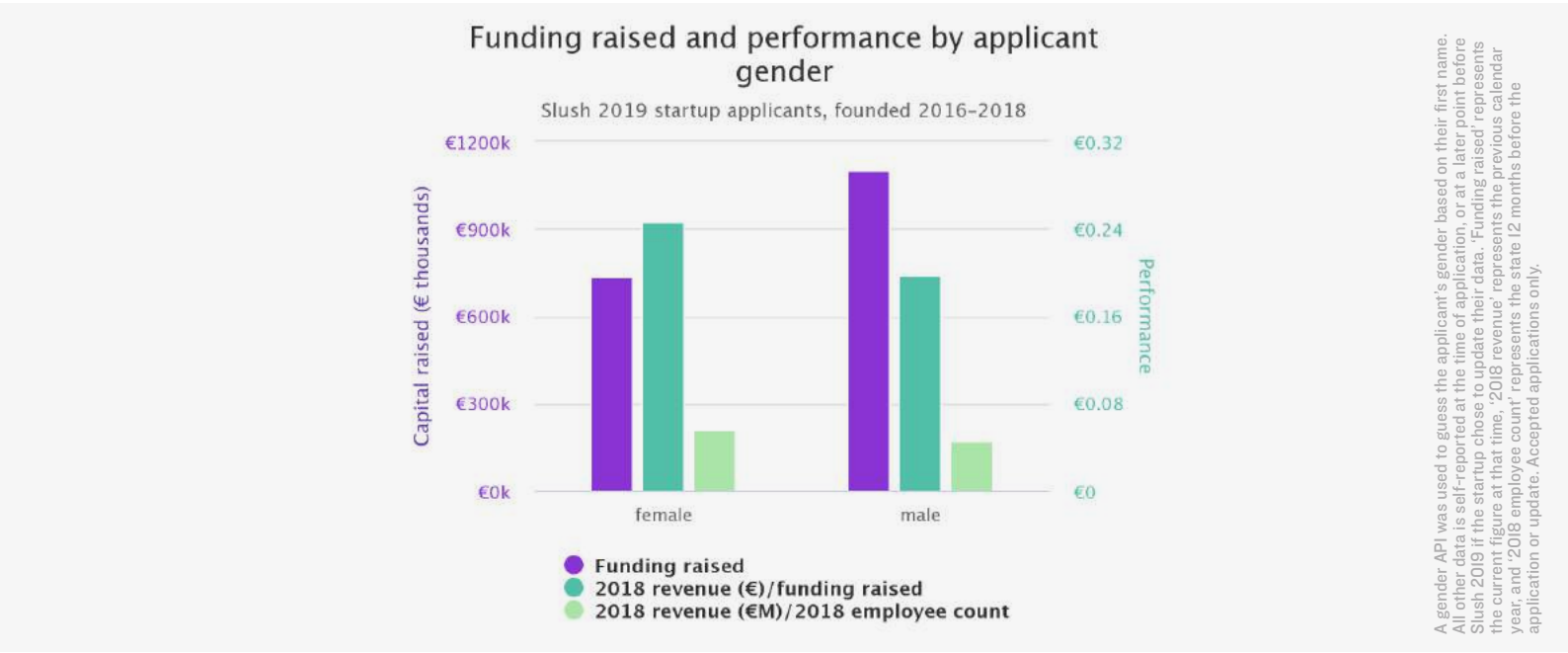
INCREASING DIVERSITY ENHANCES AND EXPANDS THE ECOSYSTEM'S PROBLEM-SOLVING CAPACITY

Diverse teams perform better. When asked about that statement, almost 90% of respondents to the State of European Tech survey in 2018 agreed. In fact, the question received the highest level of unanimity in that year's survey. This is backed up by quantitative evidence from BCG and MassChallenge, who found that companies with a woman on the founding team delivered twice as much revenue per dollar invested than those run solely by men.

The same seems to be true for startups that come to Slush. In our 2019 cohort, startups of comparable age whose application was submitted by a woman (usually one of the founders) had received less funding on average, but done more with the money, generating more revenue per euro of funding and per employee.

"I don't think anyone in this world should have doubts about the benefits of gender, racial and religious diversity. I think it makes you better in terms of efficiency, operations, and ultimately, in terms of revenue"

- Operator



SLUSH

"If the whole employee base is too homogeneous, it will drive the company in a certain direction and some viewpoints will go underexplored."

- Founder

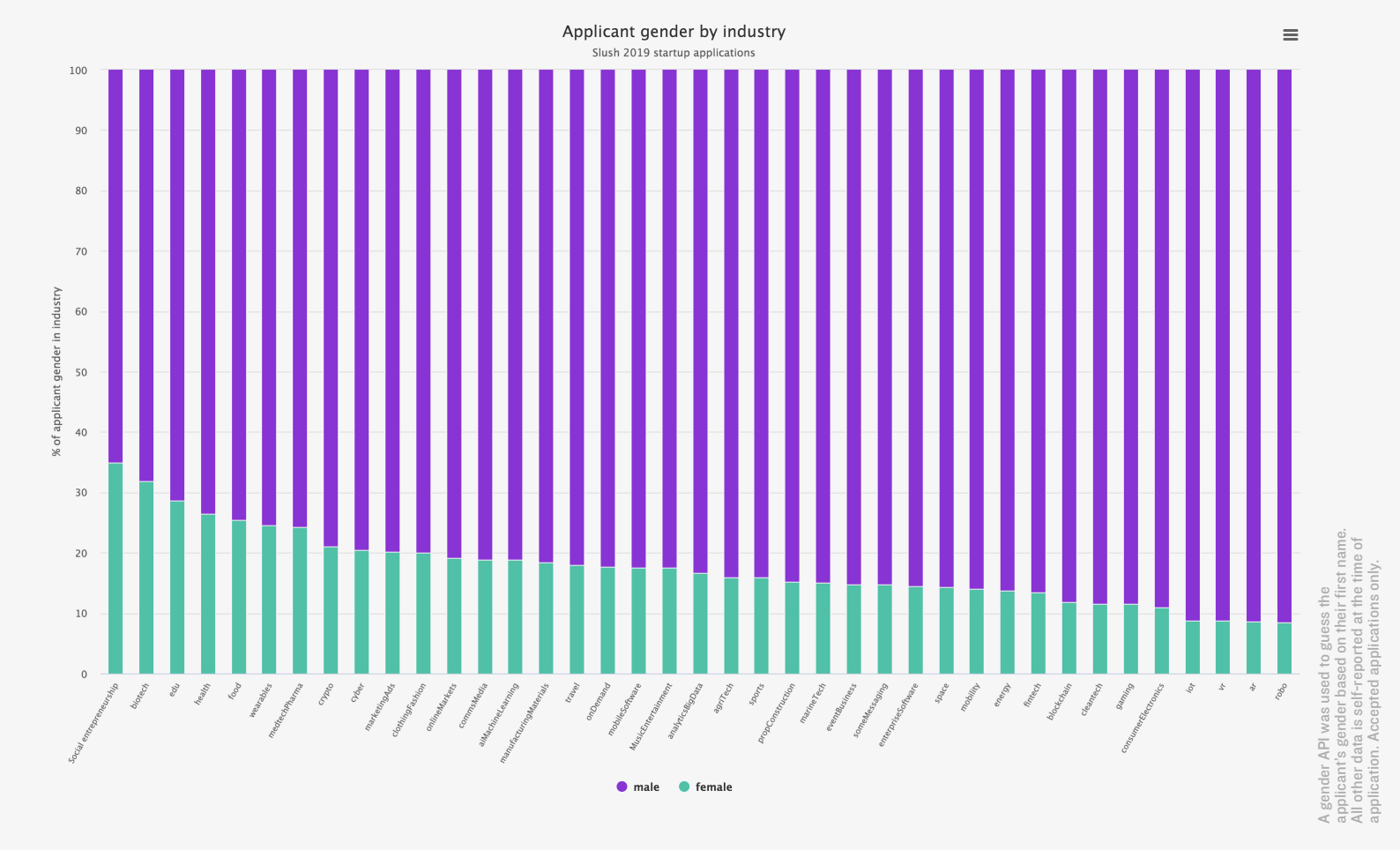
However, just as importantly, a lack of diversity limits the problem set that the ecosystem solves for. Founders address problems that concern them directly, and talent gravitates towards companies whose products excite them.

An indicative example of this phenomenon is medicine, which, as The Guardian pointed out, has a long history of discriminating against female health. On ResearchGate, a research database, there are five times as many papers about erectile dysfunction — a condition affecting 19% of men — than on premenstrual syndrome, which affects 90% of women.

"Entrepreneurs don't see problems that don't concern them directly. For example, there is very little work around the problems of elderly people."

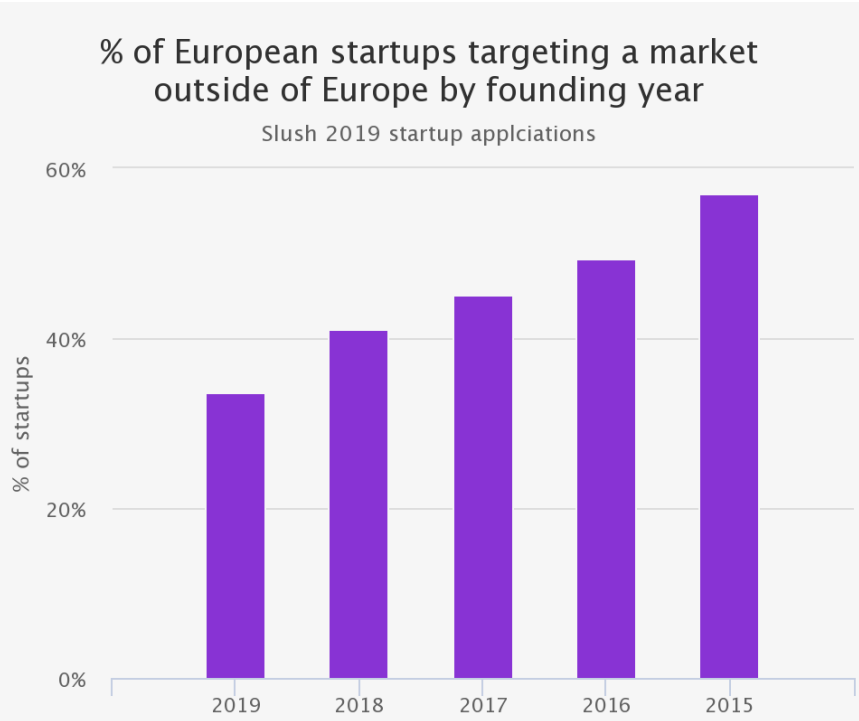
- Founder

Interestingly, in our 2019 cohort, while gender diversity was poor across the board, startups whose application was submitted by a woman were far more likely to work in verticals such as social entrepreneurship, biotech, education, health and foodtech.



When homogeneous teams do solve problems for all of humanity, they risk creating products that only work for some, or are outright discriminatory. For example, Deloitte points out that the automotive industry remains very male-dominated to date. As TechCrunch writes, it's difficult not to imagine a causality between that and the fact that, for long, crash test dummies were modeled after the average male height, weight and stature.

The risk of creating biased solutions increases further in an age where startups are selling to a global market from the get go. Data on our 2019 cohort shows the stunning extent to which this is the case. 34% of European startups were targeting a market outside of the continent already in their founding year. For four-year-old startups, that percentage jumped to 57%. Having a diverse set of perspectives is of particular importance when creating products for a nuanced pool of customers.



SLUSH

"If you're building a global platform, it can't be run only by Californian/Nordic hoodiemen. You have to have a global team that understands all relevant cultures and worldwide nuances."

- Investor

The 2020s present a huge opportunity for young ventures to tap into underexplored verticals and customer segments. Previous patterns of success will break down, and investors will have to look beyond current, saturated spaces for asymmetric success.

By the end of the 2020s, people won't only consider diversity the right thing to do, but the only way to be successful.

"Stereotypical white-male, 25, Oxbridge type founding teams produce very few massive successes, so clearly diversity is of functional value. You see a very limited problem set if you're fresh out of Oxbridge."

- Founder

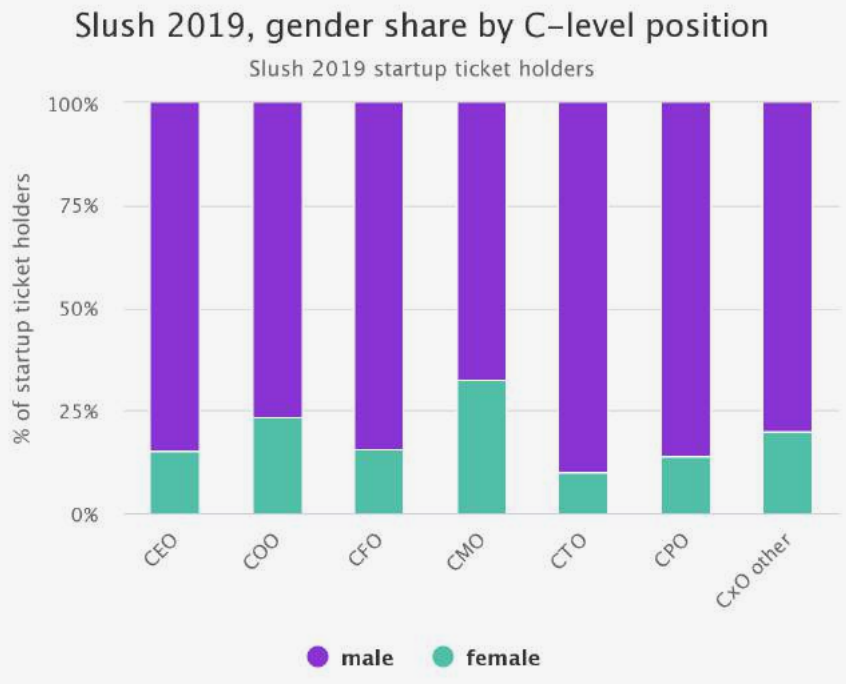
SYSTEMIC CHANGES ELSEWHERE IN SOCIETY ARE NEEDED TO BUILD A DIVERSE TALENT POOL

When examining actions that can be taken to increase diversity, it's worth noting that systemic challenges arise before talent enters the workforce.

Microsoft surveyed 11,500 young women across 12 European countries, finding that girls aged 11–12 are just as interested in STEM (science, technology, engineering and mathematics) as boys, but that interest drops significantly once they turn 15–16. At that age, just 5% of girls report that they expect to have a career in computing or engineering, compared to 18% of boys, according to the OECD. This is not driven by performance—in the PISA assessment, which is taken at that age, girls and boys perform comparably in natural sciences.

The results of this are evident in higher education. In the OECD countries, fewer than 1 in 3 engineering graduates are women. In computer science, the number is even lower, below 1 in 5.

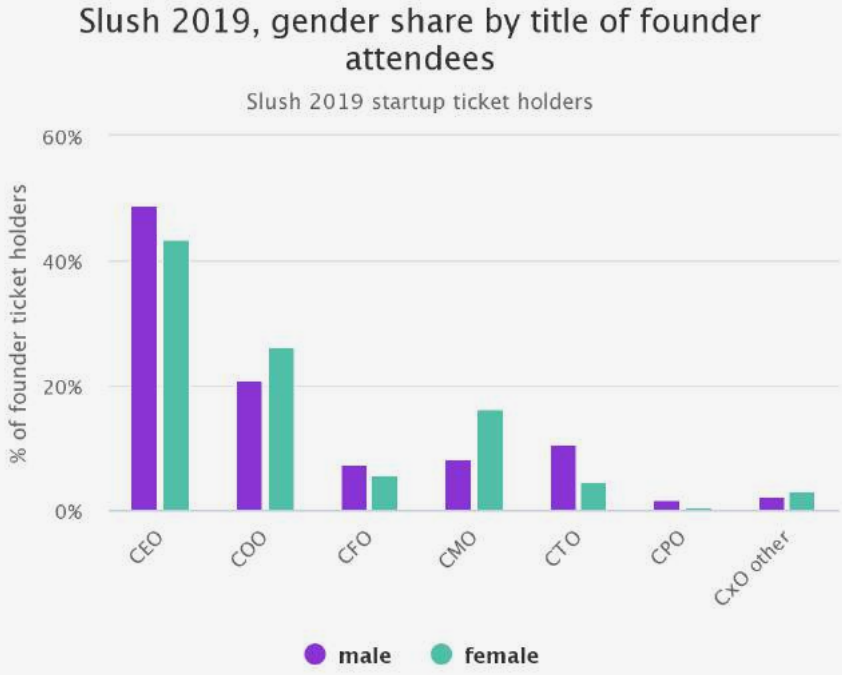
However, the startup ecosystem's diversity metrics are grim even compared to those of surrounding society. At Slush 2019, less than 20% of all C-level startup attendees were female, with even lower numbers in technical positions.



A gender API was used to guess the ticket holders's gender based on their first name. Titles were obtained through keyword analysis on open-ended, self-reported titles. Similar spellings stacked together.

"There is a massive lack of role models, which means that young women just don't consider founding a company an option."

- Founder

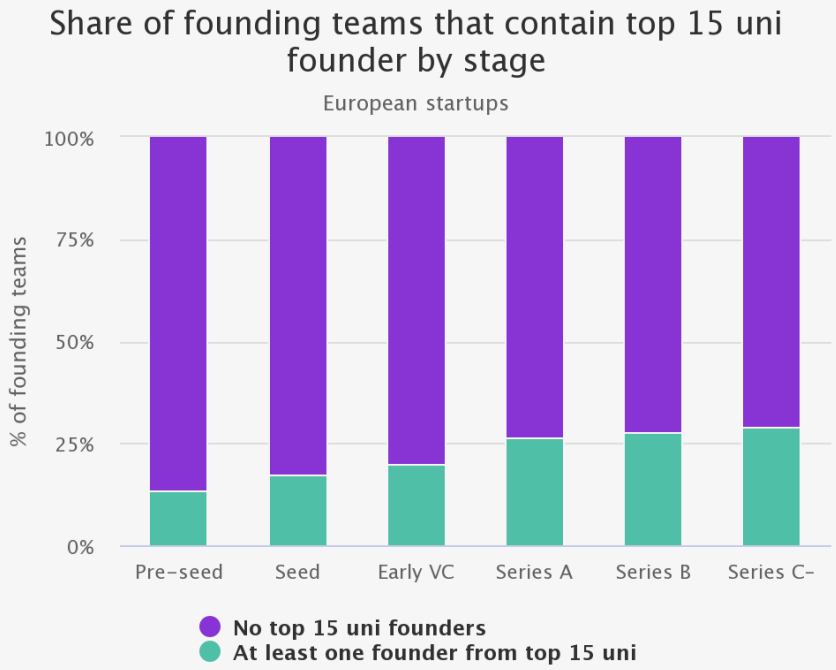


A gender API was used to guess the ticket holders's gender based on their first name. Titles were obtained and founders recognized through keyword analysis on open-ended, self-reported titles. Similar spellings stacked together.

SLUSH

What's more, lacking diversity is not a one-way street. Microsoft found that the declining interest of young women is driven by their awareness that they wouldn't be treated equally in the STEM workplace. In a separate study, Microsoft noted that the number of girls interested in STEM almost doubles when they have a role model to look up to.

It is imperative for startups to provide those role models. Our analysis shows that just 7 of the 166 founders of European tech unicorns established since 2008 are women; a deplorable figure in an ecosystem whose narratives of success often fail to accommodate for anyone but the people at the top. What's more, even when women are part of founding teams, they are less likely than men to serve as CEO, as evidenced by data on founders at Slush 2019.



All Dealroom.co data excludes biotech. Please also note the data excludes Israel. Only includes companies for which Dealroom recognizes the alma mater of at least one founder. Companies classified by latest funding round. 'Early VC' is Dealroom's term for unattributed rounds between the size of $1M–$10M.

dealroom.co

The likelihood to found a company is also slanted towards select academic institutions. According to Dealroom's data, 13% of European pre-seed companies have a founder that studied at one of just 15 universities; a striking number considering that the EU estimates there to be 4000 higher education establishments on the continent.

Since admission to some of these institutions is notoriously skewed, the ecosystem inherits a homogeneous founder pool. For example, as the Guardian writes, privately educated children make up just 7% of the student body in the UK, yet win over 30% of undergraduate places at Oxford and Cambridge.

However, once again, instead of flattening out those differences as ventures mature, the ecosystem heightens them. Beyond Series B, 30% of European companies have a top 15 university alumna on their founding team.

"How are you going to get these kids from council estates to raise seed funding? I just can't see it happening any time soon. There's this huge gulf between where those people are and where we in the ecosystem are."

- Founder

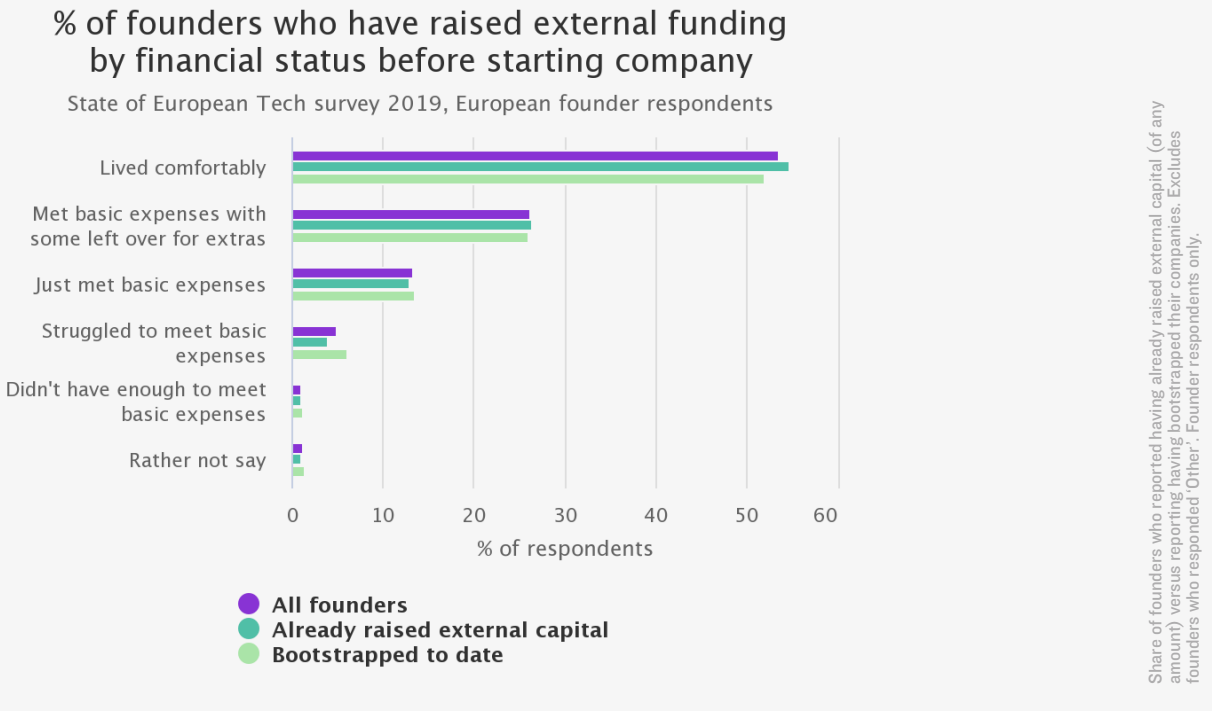
On a similar note, it's extremely hard to be innovative if you have to worry about livelihood.

The Quarterly Journal of Economics analyzed 1.2 million inventors in the US. They found that children from families in the highest income percentile are 10 times more likely to hold a patent than those from low or middle-income families, and that the gap persists among people with similar results in early childhood math tests. That study also pointed to the importance of role models, finding that those exposed to innovation as children were more likely to become inventors themselves.

Over here in Europe, out of founder respondents to the State of European Tech survey in 2019, 80% were financially well off immediately prior to founding their company. This compares to 39% of the EU-28 population, according to Eurostat. Furthermore, the share of founders who had raised external capital was higher among those that started out with better socioeconomic standing.

"To address diversity, we need to start earlier, already in education. By the time that people would be ready to join a company like ours, it's often too late."

- Founder



Entrepreneurship, and startups in particular, are often considered vehicles of social mobility. Unless our societies provide better support networks for risk-taking regardless of background, much of that opportunity is lost.

"In Scandinavia, you don't end up in debt after graduation. That's a huge advantage. People have enough energy to make the world a better place. My friends in the United States and Korea have to solve the world's problems, plus they have to pay back a loan."

- Founder

Clearly then, part of the ecosystem's lack of diversity stems from elsewhere in society. While participating in the discussion, startups need to stop doing worse than the world around them, and instead start to provide the role models that young people look to them for.

STARTUP CULTURE REMAINS PLAGUED BY A LACK OF INCLUSION

In 2012, Ellen Pao, then a partner at the venture capital firm Kleiner Perkins (KPCB), filed a sexual discrimination lawsuit against her employer, as recounted by Wired. Five months later, she was fired from the firm. The case became highly public after Pao rejected several multi-million dollar out-of-court settlement offers and the case proceeded to trial, unlike many of its kind. Ultimately, the jury ruled in favor of KPCB on all four accounts.

However, the movement that Pao had started did not end there. In what has been titled 'the Pao effect', a number of women have since filed claims of discriminatory practices against today's tech giants, as depicted in Fortune. Many more have spoken up.

In 2017, Susan Fowler, a former Uber engineer, accused the ride-hailing company of fostering a culture of pervasive sexism and harassment. Fowler's blog post set in motion a remarkable series of events, as detailed by Vox. Eventually, the company's illustrious founder-CEO Travis Kalanick was forced to resign.

Importantly, harassment cases are only the most extreme manifestations of a much more pervasive culture, in which noninclusive practices are celebrated and discriminatory ones condoned.

"Do you feel that you have been personally affected by discrimination?"

"Oh yeah. I have so many stories. How much time do you have?"

- Founder

Even Travis Kalanick didn't intentionally set up his company to tolerate harassment. However, he did encode the behavioral models that led to it in the company's DNA. Uber's original, now infamous list of 14 corporate values included attributes such as always be hustlin', toe-stepping and superpumped. When replacing these with a revised set of eight cultural norms, the company's new CEO Dara Khosrowshahi wrote: "'toe-stepping' was meant to encourage employees to share their ideas regardless of their seniority [...] but too often it was used as an excuse for being an asshole."

As a result of this failure to make people from all walks of life feel welcome and safe, tech companies are losing out. In a 2014 study, the Centre for Talent Innovation found that female employees in the US leave tech at a 45% higher rate than men.

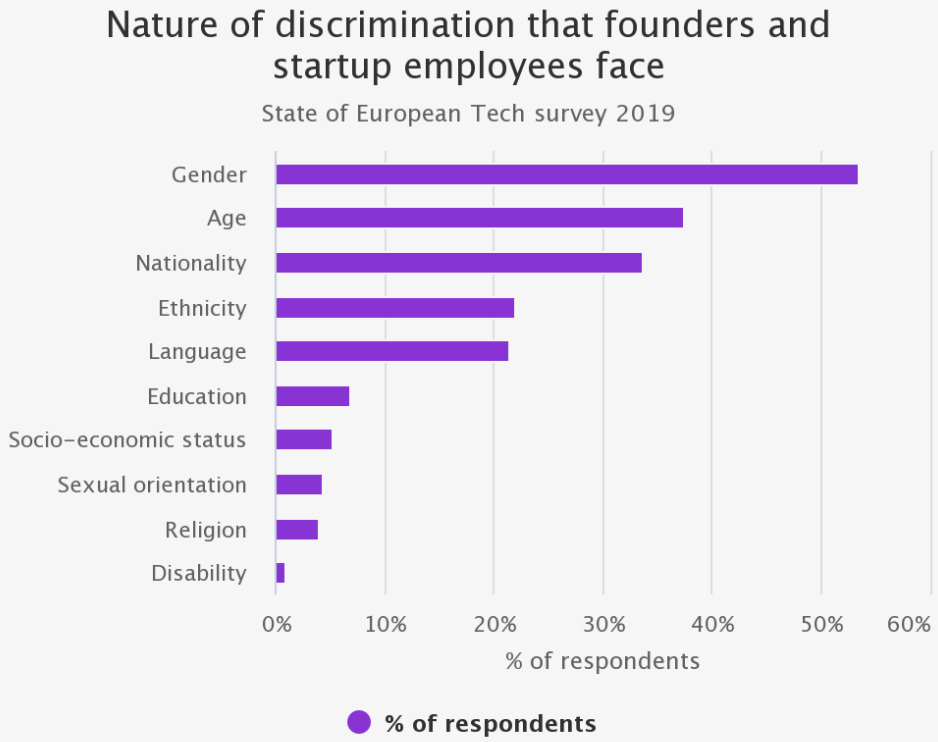
While international headlines have been dominated by the struggle with inclusion happening across the pond, there is no cause for complacency in Europe.

"I've seen a lot of startups that ended up creating quite a toxic culture. They hired a lot of the wrong people, or had the wrong type of management in place."

- Founder

Only 38% of women and 51% of men responding to the State of European Tech survey in 2018 considered the European tech industry to be inclusive. Against such a bleak backdrop, it shouldn't be surprising that 49% of female founder respondents to the 2019 survey, and 40% of all founders that belong to a minority ethnic group, reported having experienced discrimination while working in the industry in the past 12 months.

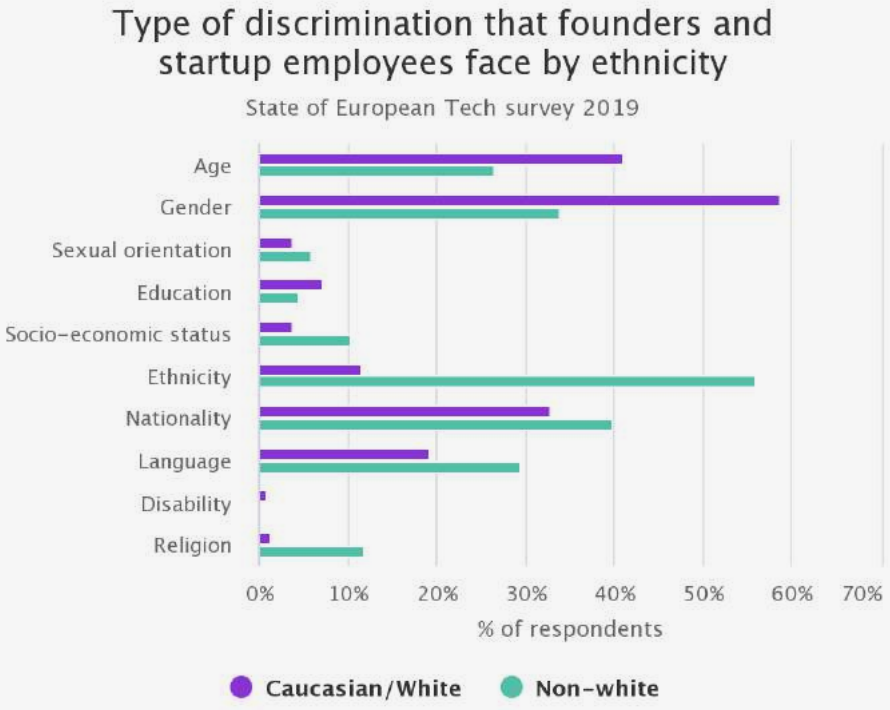
The survey also revealed that discrimination in European tech takes many forms. This underlines how a conversation focused solely on gender fails to account for many of the negative experiences that plague the ecosystem.



Only includes respondents who reported having experienced some form of discrimination. European founder and startup employee respondents. Respondents could select multiple options.

The State of European Tech Survey

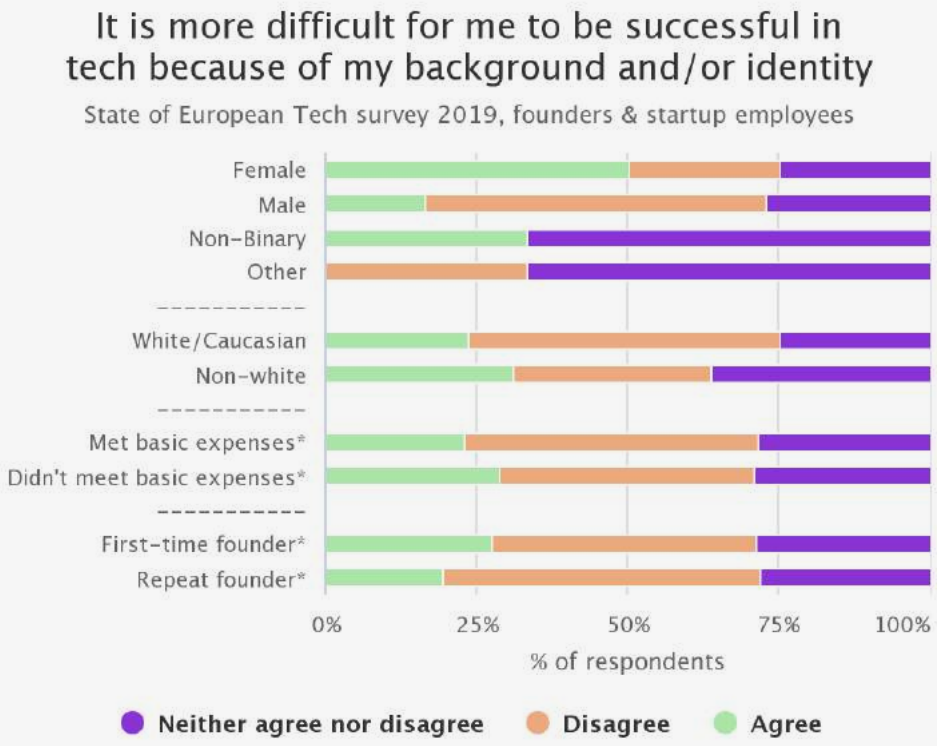
What's more, the industry's aggregate figures fail to capture the experiences of underrepresented groups. Non-white foudners face a distinct set of obstacles, where ethnicity, rather than gender, is the most common type of discrimation encountered.



Respondents who self-reported another ethnicity than "White/Caucasian" stacked together. "Prefer not to say" excluded. European founder and startup employee respondents. Respondents could select multiple options.

The State of European Tech Survey

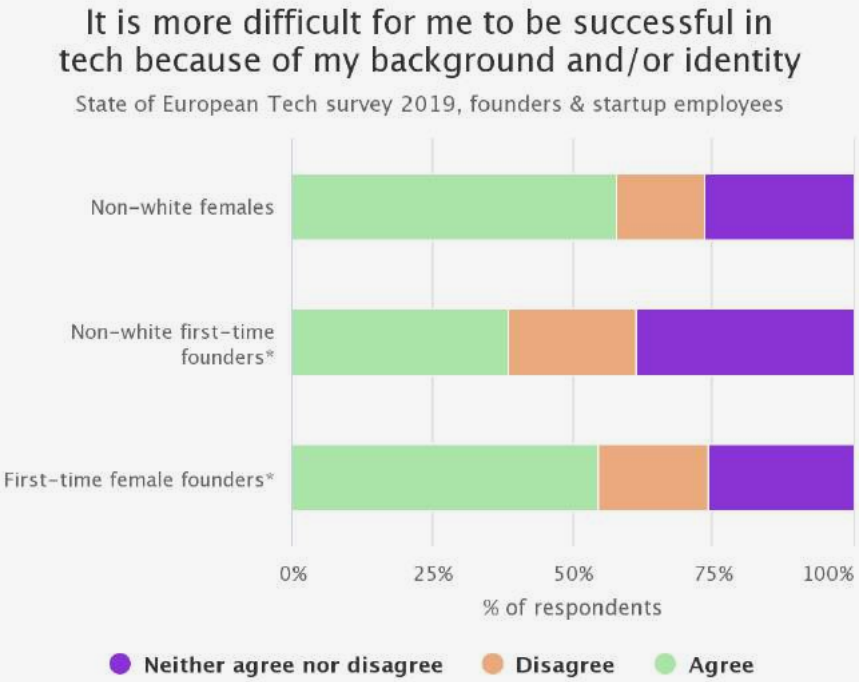
As a result of all this, too many people that don't fit tech's narrow norm still feel like their identity or background is a barrier to success in the European ecosystem.



Respondents stacked together. "Prefer not to say" excluded for gender, ethnicity and financial status. European founder and startup employee respondents. Financial status refers to self-reported income level immediately prior to founding current company.Only founder respondents.

The State of European Tech Survey

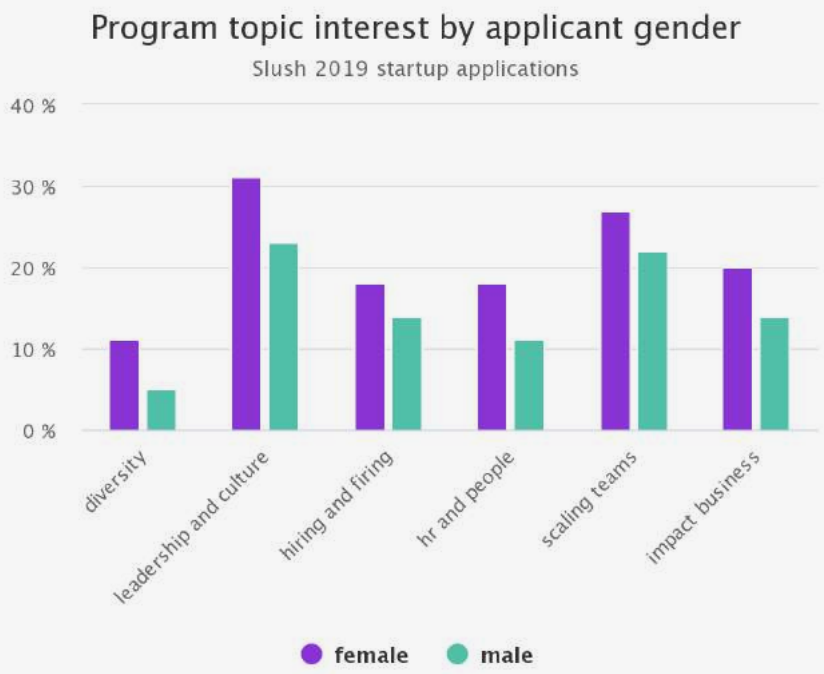
It's also important not to discuss people's backgrounds as if they were mutually exclusive. Human heterogeneity is intersectional; a lot of people represent more than one underrepresented group. Data on selected intersectional demographics from State of European Tech 2019 shows that in those cases, barriers compound.



"Prefer not to say" excluded for gender and ethnicity. European founder and startup employee respondents. Only founder respondents.

The State of European Tech Survey

Unfortunately, only those who are on the receiving end of discriminatory practices seem to be interested in learning about the topic. Out of people submitting startup applications to Slush 2019, women were far more likely to list program topics revolving around diversity, culture and teams as being of interest.



A gender API was used to guess the applicant's gender based on their first name. Startups could select any number of 30 options.

This is distressing, because without training, people are notoriously bad at noticing their own biases. In an experiment from 2005, Yale University researchers asked undergraduate students to evaluate hypothetical job applicants for the role of police chief. They found that the students who constructed the most pro-male criteria also showed the highest level of conviction in the objectivity of their hiring decision.

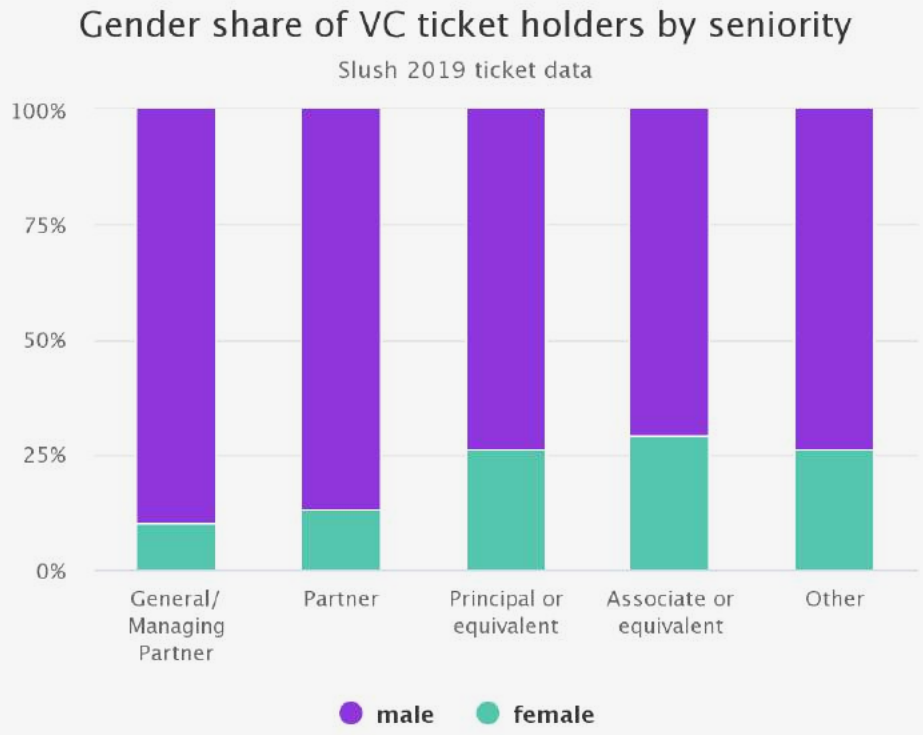
Over the course of the next decade, each of us will have to work hard to do better. Instead of bolstering existing power structures, startups should lead the way in building workplaces that are welcoming and safe for all kinds of people.

"Culturally, diversity in all its forms is the biggest problem in the ecosystem. The right culture from the start makes achieving diversity quite easy."

- Founder

THE HOMOGENEITY OF VCS REINFORCE EXISTING FOUNDER ARCHETYPES

Venture capitalists are a notoriously homogeneous bunch. As data from funds attending Slush last year shows, gender diversity is lacking across the board, and gets worse with seniority.



A gender API was used to guess the ticket holders' gender based on their first name. Titles were obtained through keyword analysis on open-ended, self-reported titles. Similar spellings and positions stacked together.

SLUSH

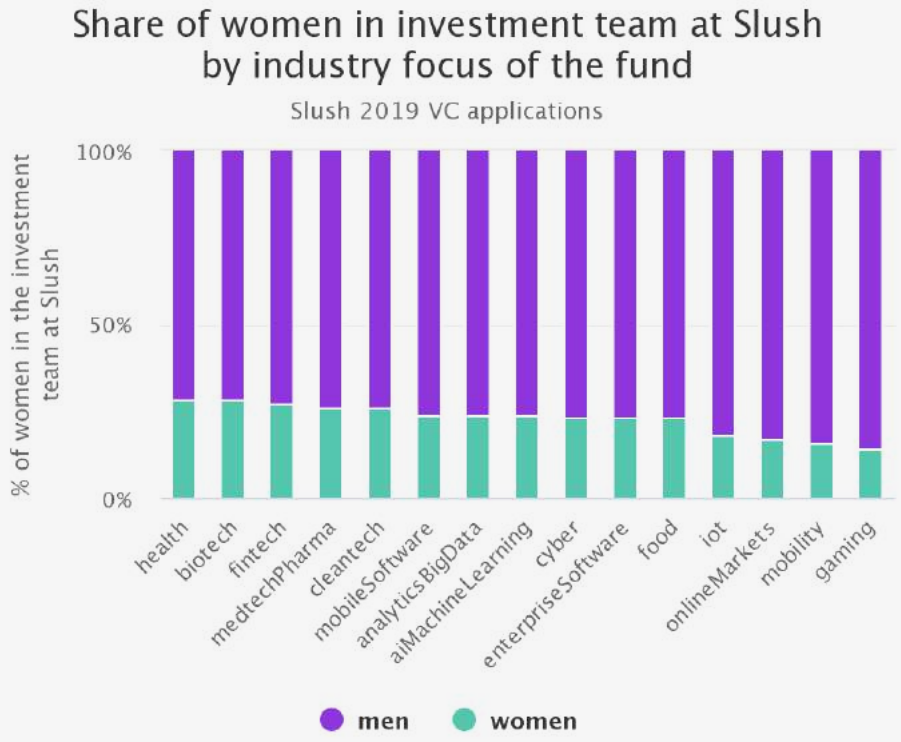
VCs exist to unlock the potential in unproven young ventures. There are very few alternative types of capital that are willing to incur the risk involved in this. Thus, VCs have a huge power to select which ideas get tested out in the market. If a homogeneous bunch of investors, susceptible to only funding solutions that they feel excited about, calls the shots, that set of ideas will remain limited.

"VCs shouldn't think that they know all patterns of success. If you look for things that look like what you're used to seeing in the past, you're going to miss out on a lot of other opportunities. A lot of people risk losing out on great deals because they're not even looking."

- Investor

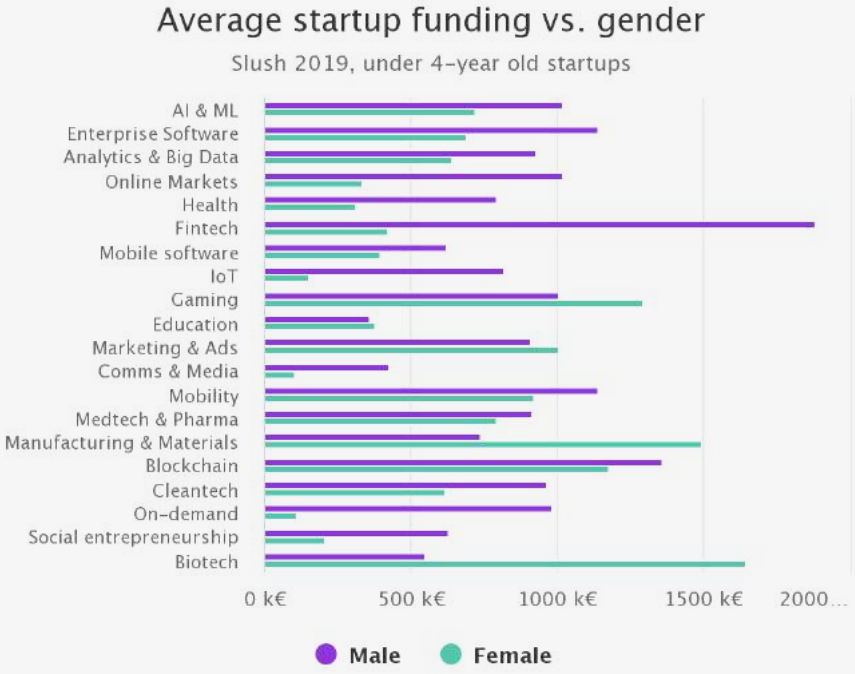
“VCs need to transform. There are patterns that have been in place for too long. In most cases, funds are still run by white males. This means that the observation of new opportunities just isn’t there.”

- Operator



A gender API was used to guess ticket holders' gender based on their first name. The industry focus is self-reported in a VCs application. Investors could select up to 3 verticals from 39 options. A certain VC is included under all verticals that it focuses on.

Our data suggests that this isn’t just conjecture. Funds focusing on industries inherently connected to the issues of a diverse group of people are more diverse themselves. More than a quarter of the investors attending Slush 2019 from funds focusing on health, biotech, fintech, medtech and cleantech were women, compared to less than a seventh from ones focused on gaming.



Includes startups founded in 2015–2019. A gender API was used to guess the applicant's gender based on their first name. The industry focus is self-reported in a startup's application, and selected out of 39 options. Accrued funding is self-reported using a given segmentation. Where applicable, the actual funding is estimated as the average of that segment.

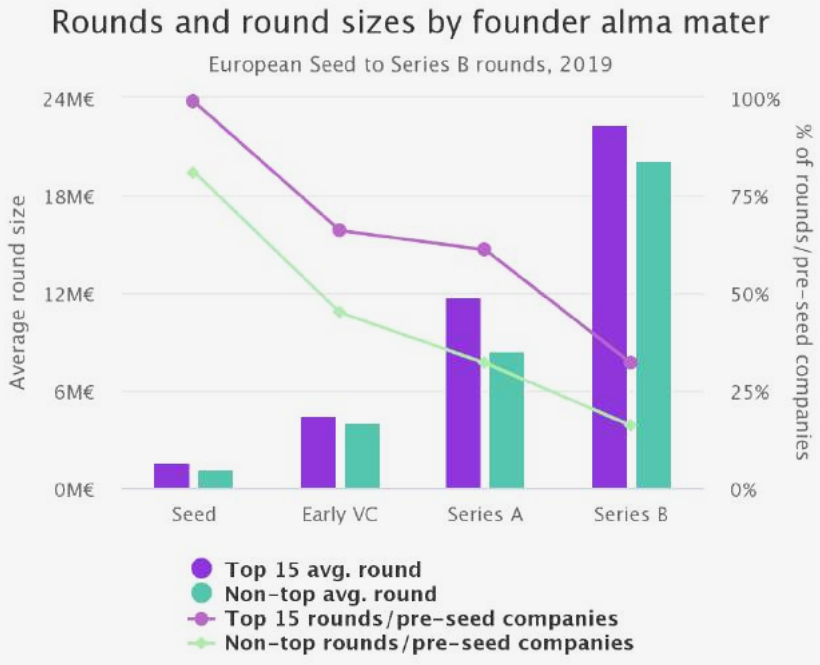
SLUSH

However, VCs are also making discriminatory calls independently of vertical. In 15 out of the 20 most common industries at Slush 2019, the startups whose application was submitted by a man had accrued more funding than those where the applicant was female.

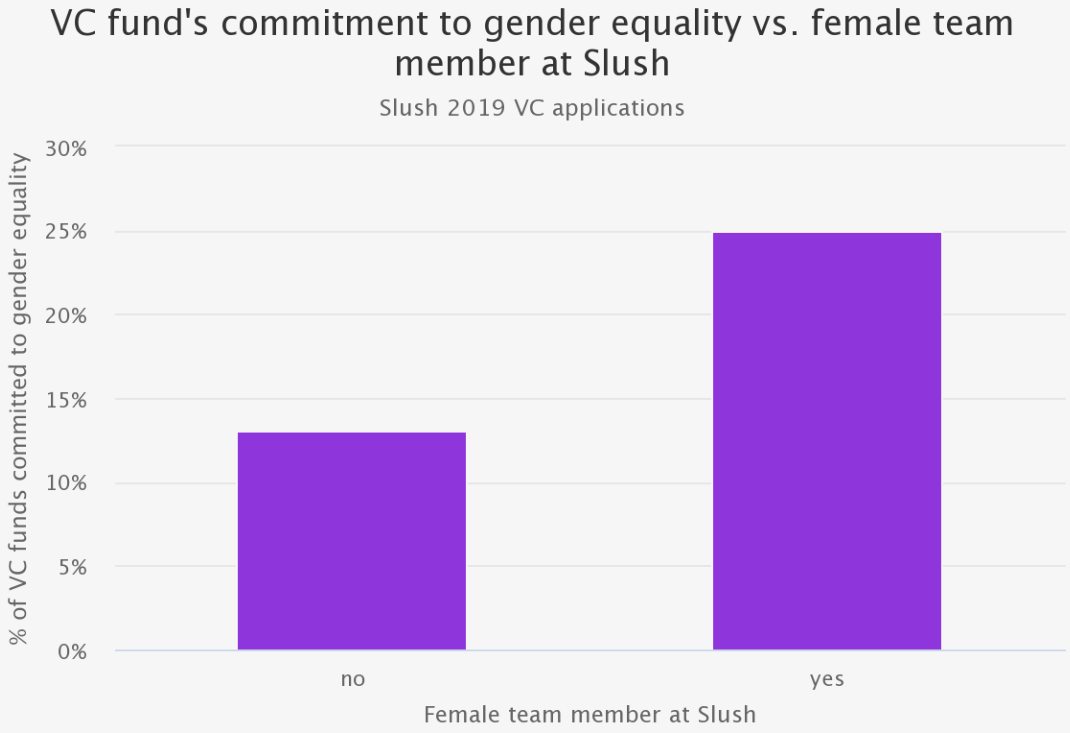
A look at European rounds going to founders from the continent's top 15 universities reveals some further skewed investor preferences.

Firstly, the share of companies funded is systematically higher amongst the alumni of those schools. Secondly, across stages, founders from top schools are being written bigger checks than their peers.

As a result of this, founders from just 15 universities have raised 41% of Europe's total venture funding in 2019 and 2020 to date.



Data exported on May 6. The data excluses biotech and Israel. Top 15 refers to those European universities whose European founder alumni have raised the most cumulative funding in 2019–2020. Only includes companies for which Dealroom has recorded the degree of at least one founder. 'Early VC' is Dealroom's term for unattributed rounds between the size of $1M–$10M.'



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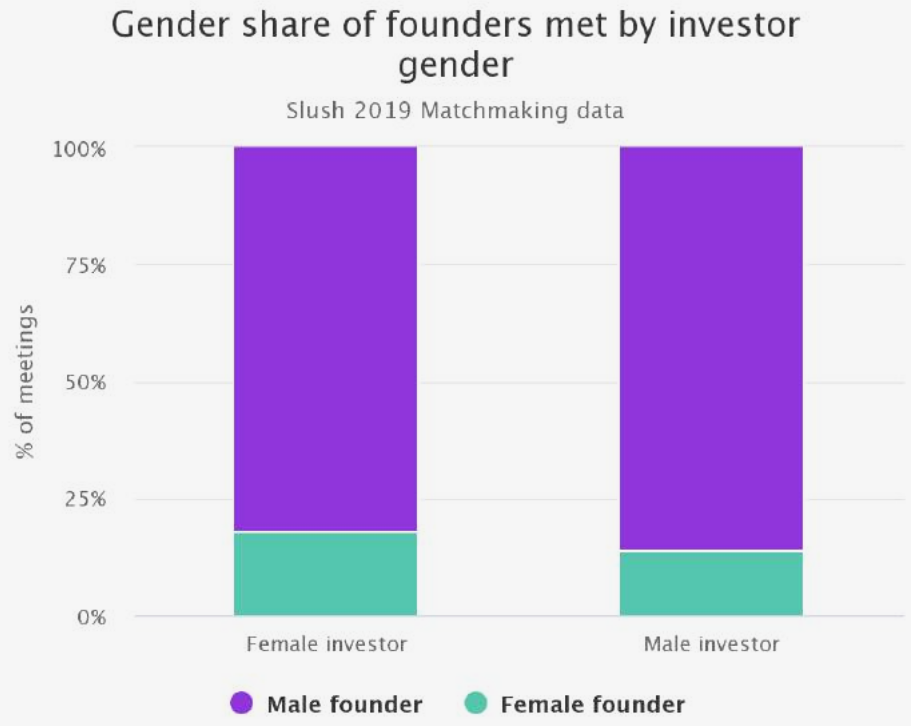
Previous research offers some clues as to how investor biases manifest themselves in everyday interactions. Kanze et al. analyzed interactions between 140 venture capitalists and 189 startups at TechCrunch Disrupt. They found that 67% of the questions posed to male entrepreneurs were promotion-oriented, while 66% of those posed to female entrepreneurs were prevention-oriented.

Similarly, a group of Swedish researchers analyzed local VCs reviewing investment proposals and found that the investors talked much more positively about similar characteristics in male founders than in women. This converted to the female founders receiving over 50% less of the funding they asked for, displaying how any preconceived notion of success will dictate what that success ends up looking like.

"I think that the second we get GPs that are women, or more specifically not just white, high-educated, guys, from a rather privileged background, it's (diversity in tech) going to be changing quickly because we all view the world differently."

- Investor

Our data suggests that such tendencies are much less prevalent among female investors. Out of the funds that brought at least one female investor to Slush 2019, 24.9% reported a commitment to addressing gender inequality through their investments, compared to 12.7% of those who didn't.



A gender API was used to guess a ticket holder's gender based on their first name. Includes all investor ticket holders, and startup ticket holders that are founders of their companies. Founders were recognized through keyword analysis on open-ended, self-reported titles. Meeting requests in the Slush Matchmaking Tool can be sent both ways. Only includes requests that were accepted by the recipient.

SLUSH

What's more, the effects of a narrow scope aren't limited to funding decisions. Sahil Raina found that startup success post-investment can be dependent on the presence of female investors. In the cohort he studied, when the lead VC of a funding round had no female GPs (General Partners), female-led startups were up to 70% less likely to successfully exit. When a lead female VC was present, that gap disappeared.

Clearly then, the startup ecosystem can only ever be as diverse as those who fund it. Thus, going into the 2020s, VCs will have to rapidly start looking like surrounding society. After all, that's who's buying products from the ventures that they are betting their success on.

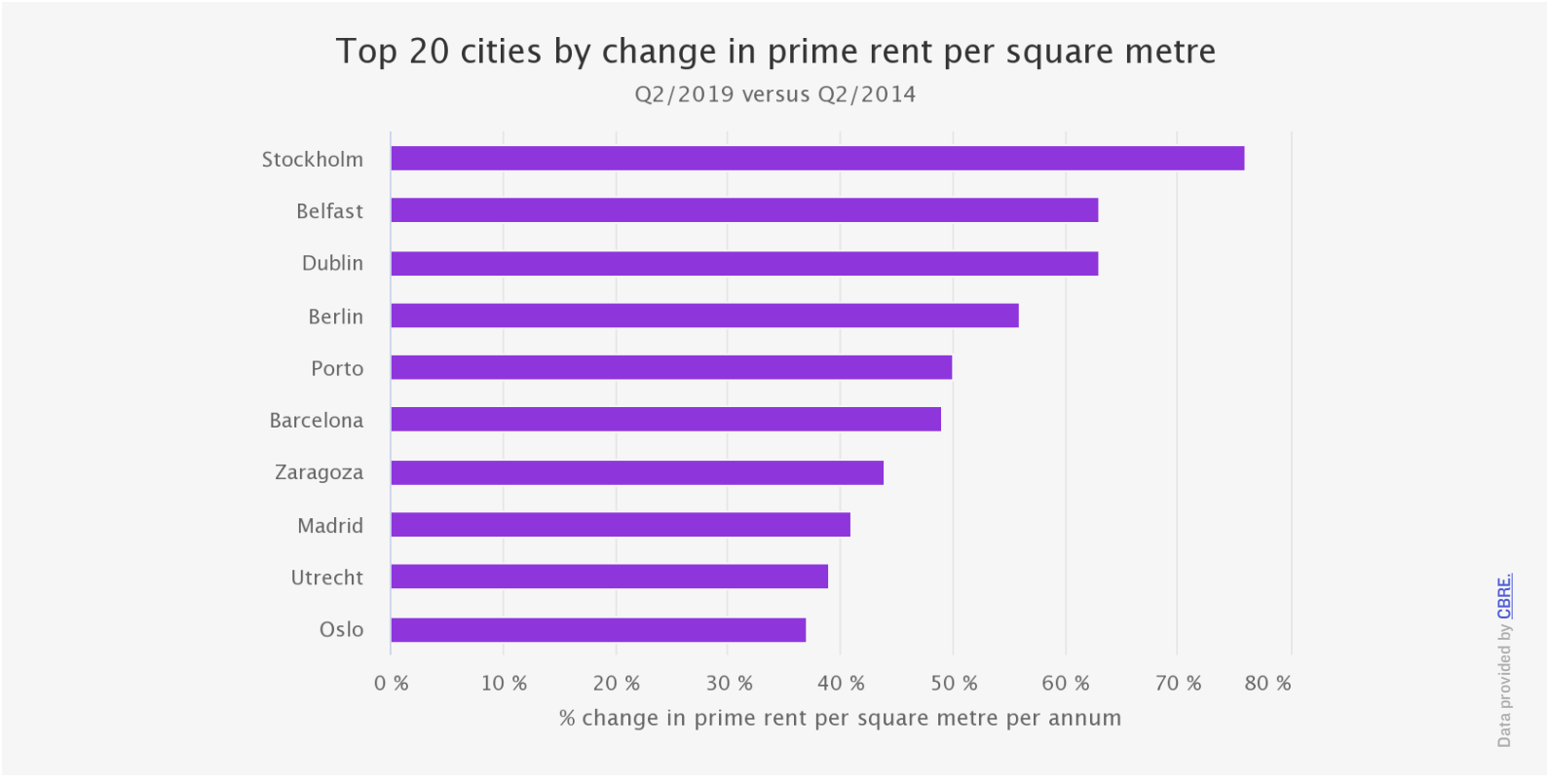
"I don't think there is anything fundamentally wrong with the VC model per se, but there is a real diversity issue, if you look at what kind of companies get funded and the kind of founders."

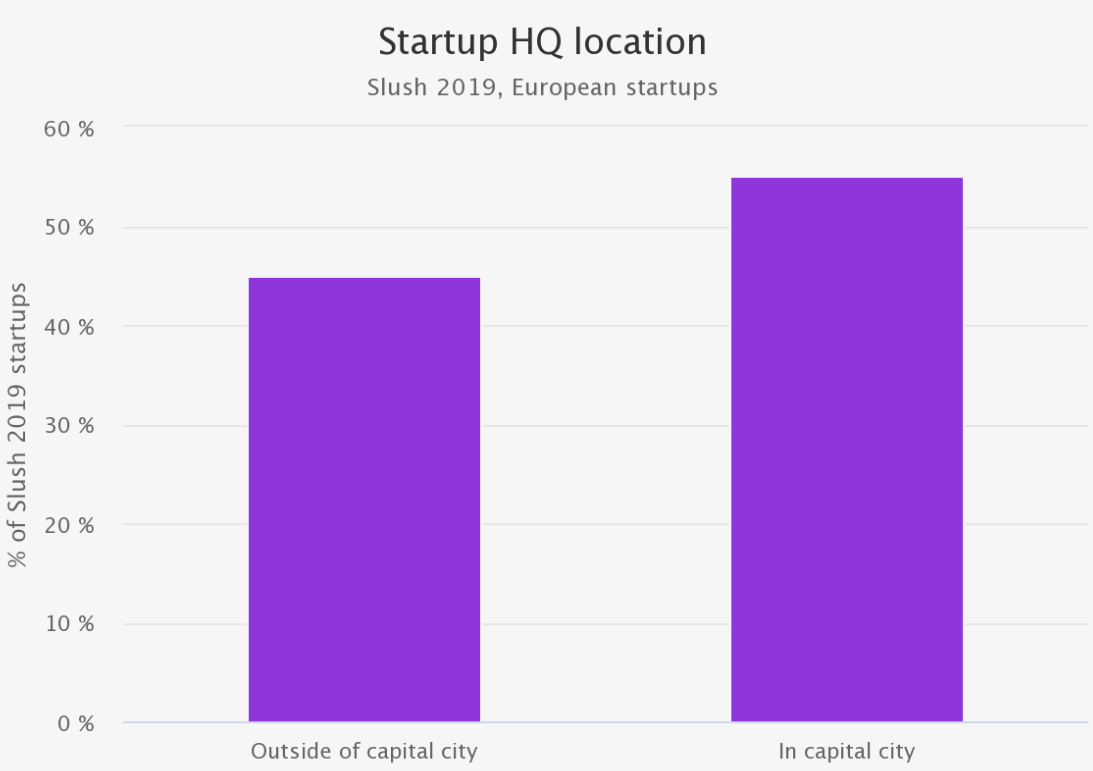
- Founder

DISTRIBUTED AND FULLY REMOTE TEAMS CAN CREATE GREATER DIVERSITY

COVID-19 might well revolutionize the way we work. As a result of the pandemic, most of us have had to learn to work remotely. Our COVID-19 Startup Survey, distributed during the latter half of April, showed that 97% of startups that were working from a common office to start with have switched over to remote work due to the pandemic.

Distributed teams could play a part in addressing diversity. For one, once a person's home address isn't bound by where their office is, employees have the flexibility to live in more affordable areas, closer to their parents, or a particular school for their kids. As data from State of European Tech shows, exploding rent prices in European hubs are quickly making urban living a luxury reserved for the few.



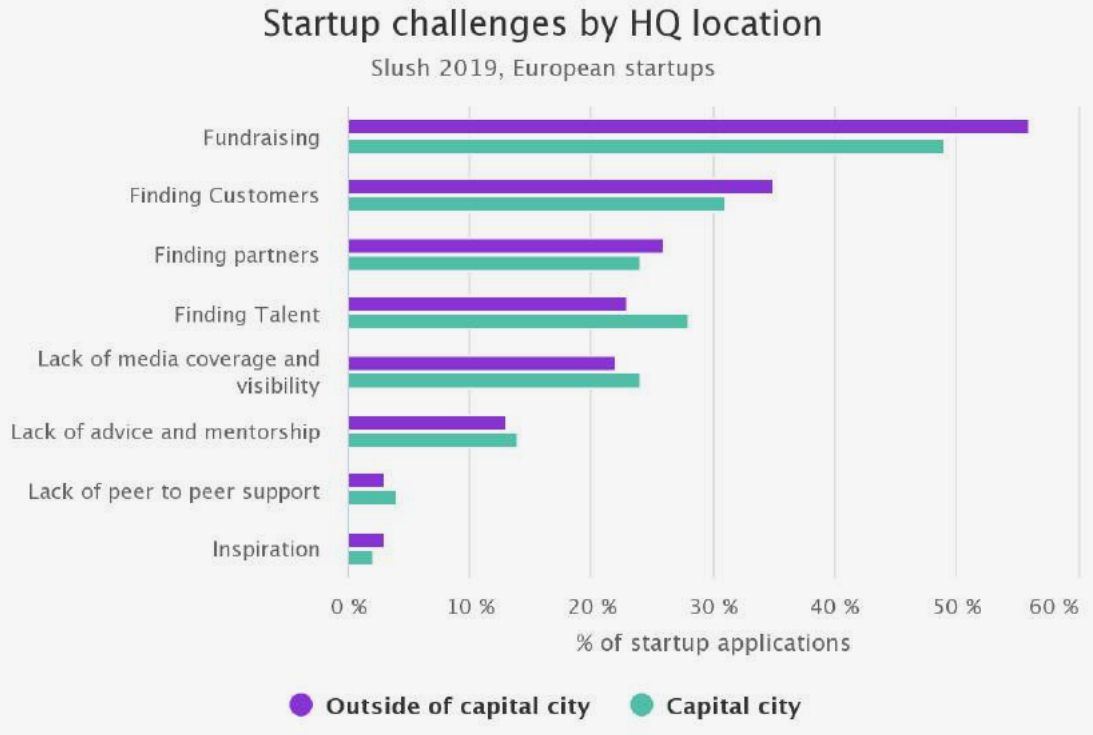


Capitals were recognized through keyword analysis on open-ended, self-reported HQ cities, accounting for different spellings. European startups only. Note that this may exclude metropolitan areas where those fall within a different city. Zurich, as de facto financial center, was used as the capital of Switzerland, which lacks a de jure capital.

SLUSH

As of now, data from Slush 2019 shows that European startups are still heavily skewed towards big cities. 55% of young companies are headquartered in a capital city.

Interestingly, while startups headquartered outside of capital cities are struggling more with fundraising, customer acquisition and finding partners than their counterparts, they seem to have an easier time attracting talent. This could be an early indication that talent is turning away from big hubs.

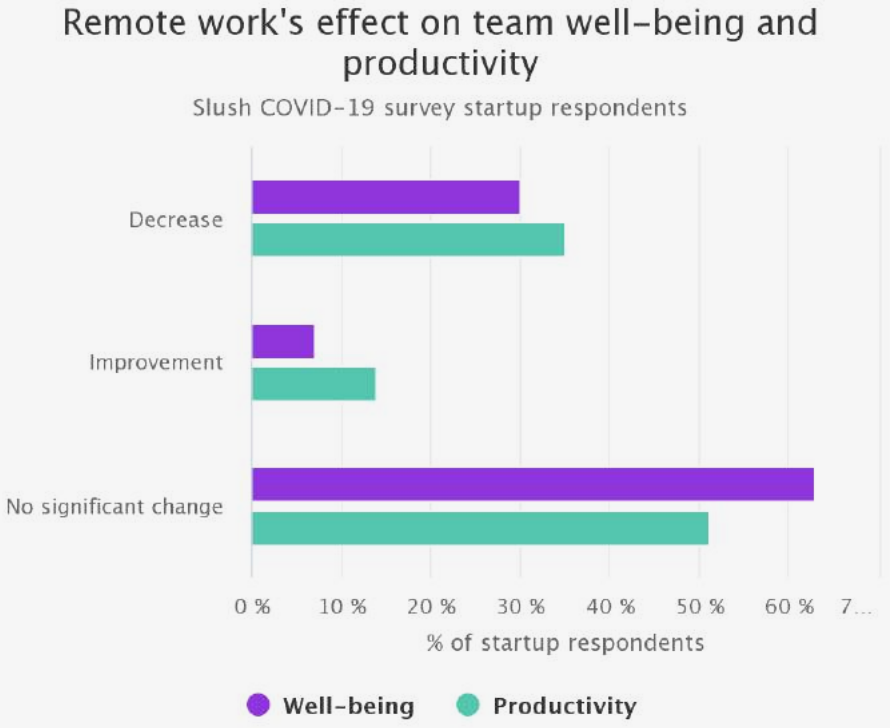


Capitals were recognized through keyword analysis on open-ended, self-reported HQ cities, accounting for different spellings. European startups only. Startup challenges are self-reported in their applications, choosing any number out of 9 options. 'Other' excluded.

However, the biggest opportunities that distributed teams pose are international. In the past few years, we've seen an emergence of companies working remotely from the get go, employing people from across borders and timezones. This is a revolutionary shift in the way companies are built, allowing people from all over the world to collaborate and build truly global startups. Europe even got its first remote unicorn in 2018; GitLab, as told by TechCrunch.

In part, this shift is driven by employee preferences. People actually value working from home, or at least the option to do so, and may be more efficient when they do. A 2017 Stanford study found that, on average, workers were willing to give up 8% of wages for the option to work from home. According to a Harvard Business Review working paper, productivity actually rose 4.4% when patent examiners in the US worked from home.

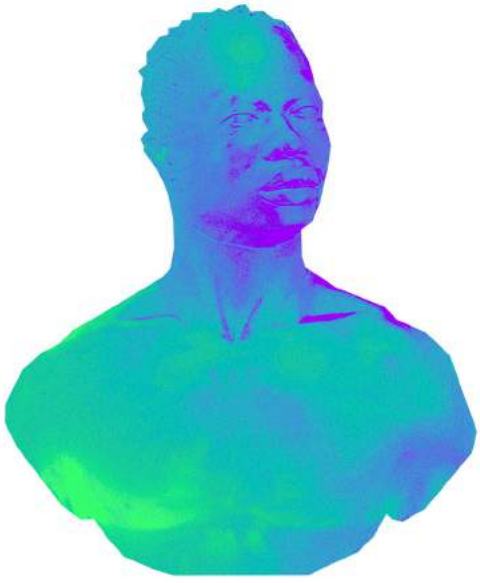
However, data from our COVID-19 Startup Survey suggests that the equation is a little more complex when entire teams are forced to switch to remote, suddenly and involuntarily. During the latter half of April, more startups had seen their team's well-being and productivity drop from switching to remote work. Perhaps this style of working is only suited for some employees, or there is a period of friction before practices catch up with the new reality and benefits materialize.



Only includes those startup respondents that reported having switched over to remote work, after working from a common office to start off with. Includes startups from outside of Europe. The survey was distributed between April 16 and May 8. N=207.

“Startups that start to take advantage of remote work—that can access the talent pool outside of small countries, like in the Nordics for example—they’re going to see so much success. Being able to source that kind of talent, you’re going to get people who want to work at the company because of love for the product, not coincidence.”

- Investor



NARRATIVE 2

PURPOSE-DRIVEN CHANGE

NARRATIVE 2

PURPOSE-DRIVEN CHANGE

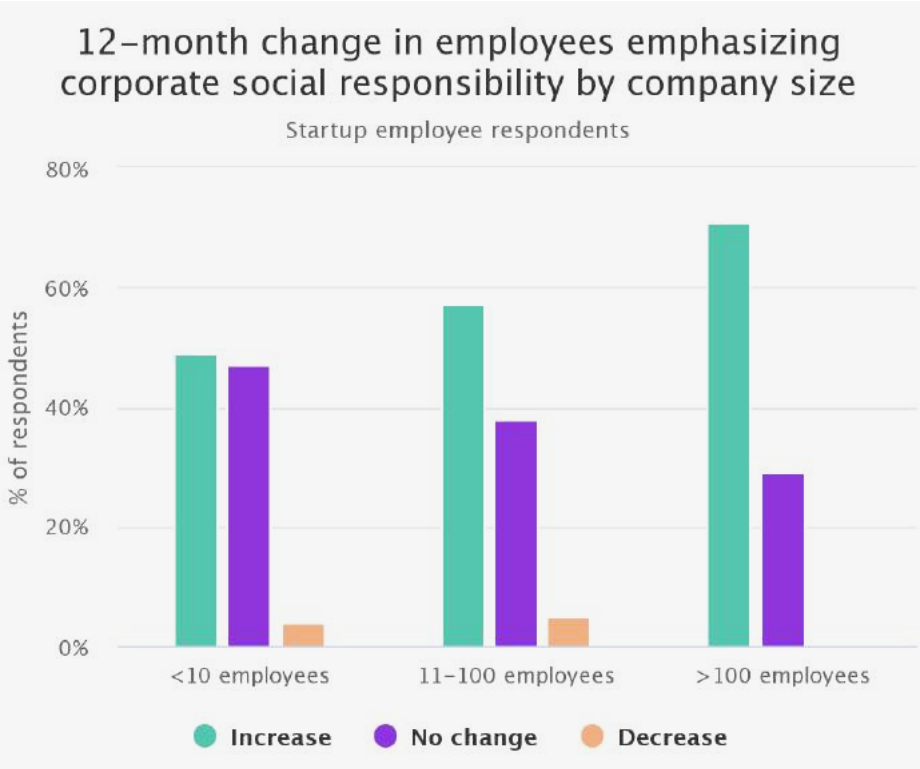
A new generation of founders and talent is knocking on the doors of the European ecosystem, ambitious to tackle the most momentous issues of our time.

State of European Tech 2019 exposed the pace at which this shift is happening. The majority of respondents working in the industry stated that, in just the last 12 months, they'd seen an increase in the number of employees placing emphasis on purpose alignment.

This shift in the personal preferences of founders and employees is quickly molding the companies that they establish and choose to work for. Where social responsibility was once viewed as a tangential activity to core business, it is now being weaved into the mission of many companies.

"If every startup starts by thinking: am I truly solving a problem, the world will progress."

- Operator

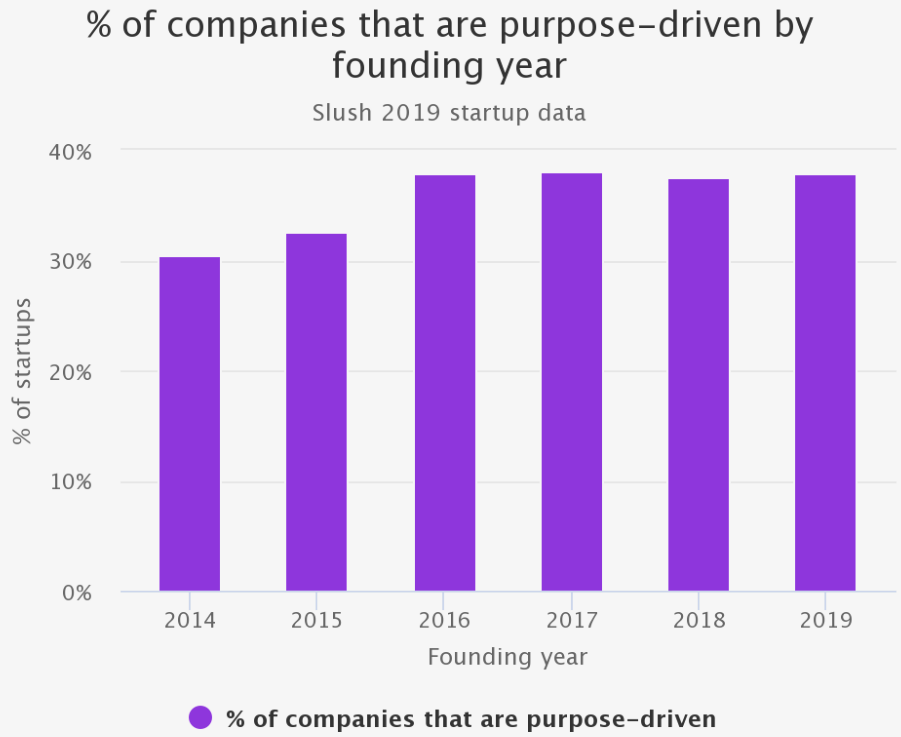


Employee at a tech startup or scaleup respondents only. Numbers may not add to 100 due to rounding.

"I personally want to work in a place that has a huge impact on making the world better because there are a lot of issues we need to fix."

- Founder

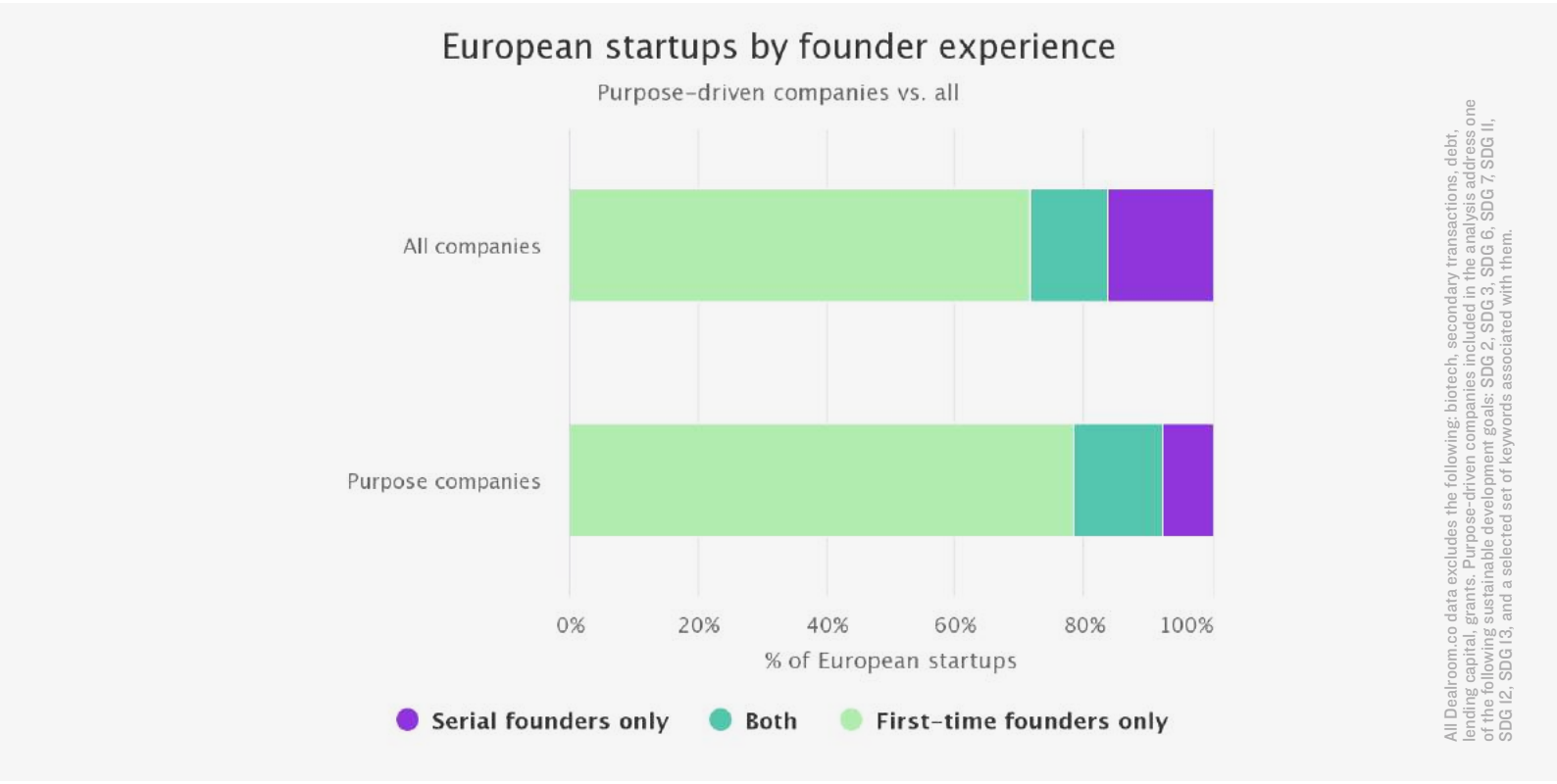
At Slush 2019, 36.7% of startups were what we call purpose-driven, with a higher share among younger ventures. These are companies that—in their application—reported working towards at least one of the United Nations (UN) Sustainable Development Goals (SDGs), and mentioned a keyword related to that SDGs in their product description. In other words, they are pursuing a certain SDG as a core aspect of their product.



Purpose-driven companies are ones that—in their application—reported working towards at least one of the UN SDGs, and mentioned a keyword related to that SDG in their product description. Founding year is self-reported in their startup application.

"The ideals of entrepreneurship will reflect the inherent ideals of the next generation of founders. Millennials naturally gravitate towards problems with a deeper impact and influence, which will shape the way startups operate in the near future."

- Founder



For State of European Tech 2019, we used a similar methodology to try to recognize purpose-driven companies across the wider European tech diaspora. Now, we revisited that categorization and sliced Europe's purpose-driven young ventures by founder experience. This shows that the shift to purpose is driven by first-time founders.

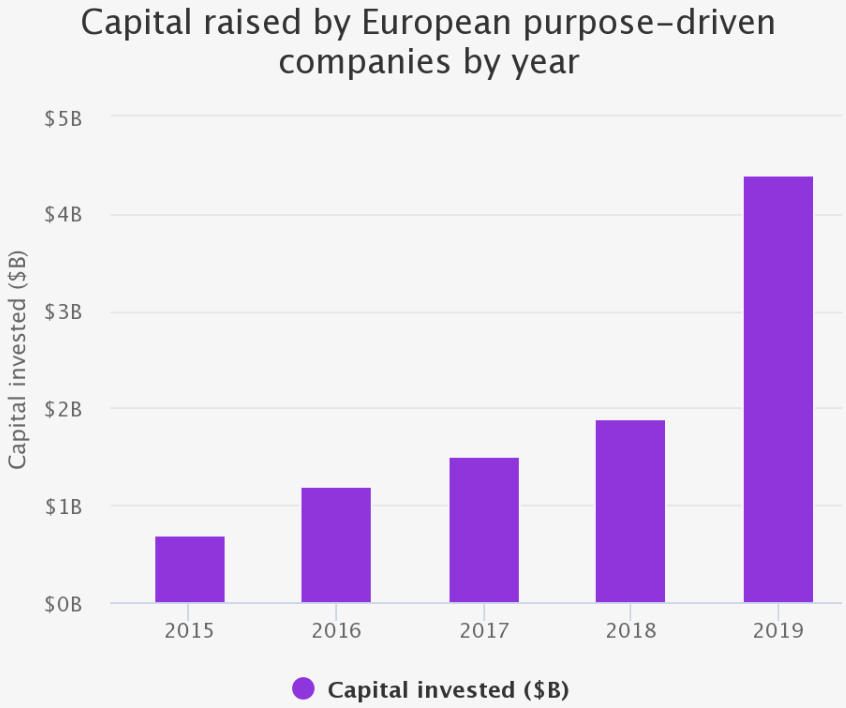
However, as we move further into the 2020s, our approach to purpose has to become less dichotomous. There are no impact companies. All companies have an impact. It's not enough for a minority of young ventures to address humankind's most pressing problems, if the rest offset the strides made. We desperately need every single company to acknowledge their responsibility towards society, and to act accordingly.

"It's crazy to think that when you talk to banks and many people in power in finance about climate, there's nothing. Whereas if you meet any 20-year old right now, that's the thing they want to dedicate their lives to."

- Investor

THE PURPOSE-DRIVEN INVESTMENT ECO-SYSTEM IS BEING BUILT FROM THE BOTTOM UP, AND VCS ARE THE SLOWEST TO ADAPT

In terms of purpose, 2019 was a year of reckoning for European investors as well. As data from State of European Tech 2019 shows, investments into purpose-driven companies more than doubled year-over-year.

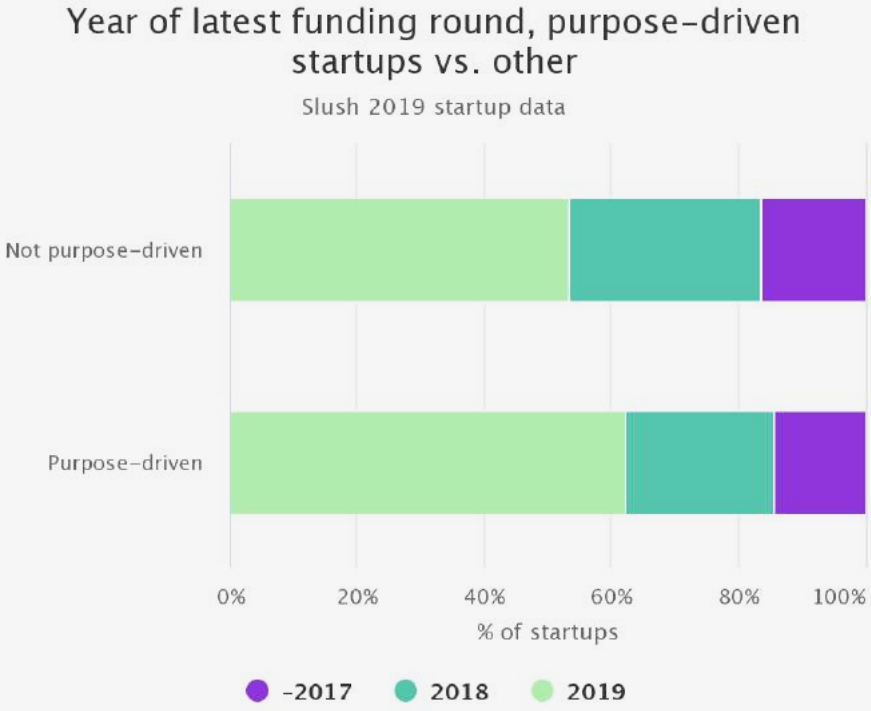


Data from Dealroom. All Dealroom.co data excludes the following: biotech, secondary transactions, debt, lending capital, grants. Please also note the data excludes Israel. 2019 annualised based on data to September 2019.

The State of European Tech

"What we are seeing is that a lot of entrepreneurs want to work on something more meaningful. For those companies, it's much easier to attract investors and partners. They're going to have a big competitive advantage going into the future."

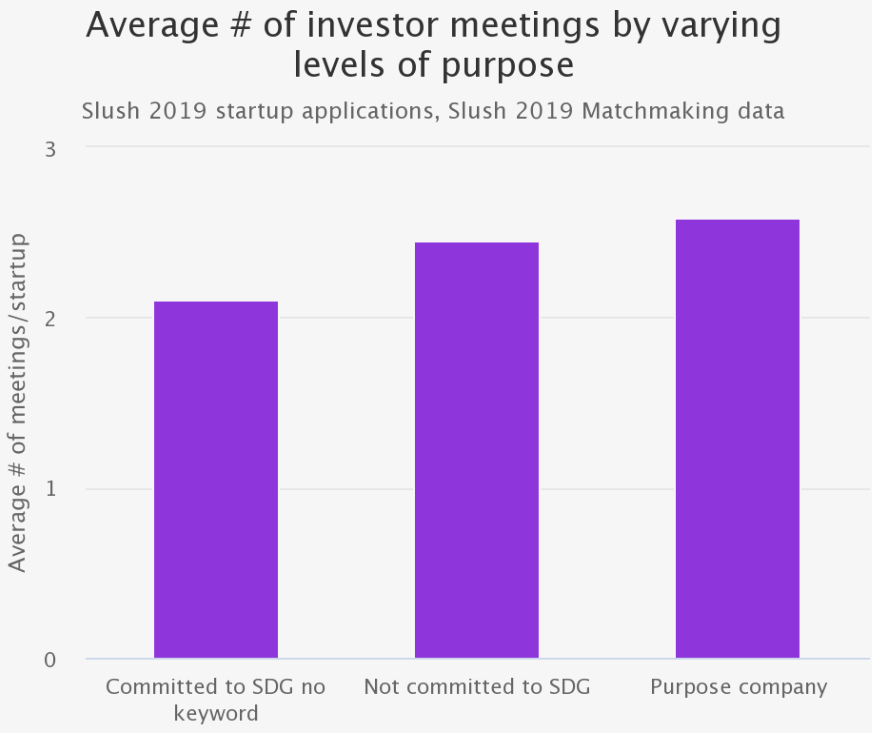
- Investor



Purpose-driven companies are ones that—in their application—reported working towards at least one of the UN SDGs, and mentioned a keyword related to that SDG in their product description. The year of the company's latest funding round is self-reported at the time of application, or at a later point before Slush 2019 if the startup chose to update their data.

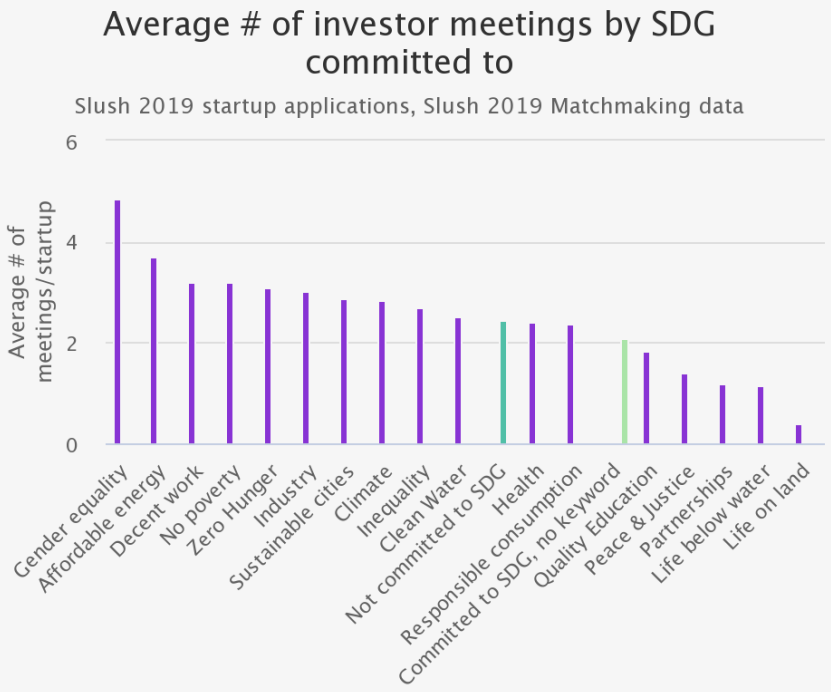
This shift showed up on our radar, too. At Slush 2019, 62% of purpose-driven startups had raised their latest round of funding in 2019, compared to 53% of other startups.

On a similar note, purpose-driven companies received more investor meetings at Slush 2019 than their counterparts. What's more, investors had a keen eye for virtue signalling. Those companies that reported working towards some SDG, but failed to back that up in their product description, received the lowest level of investor interest.



Includes meetings between investor ticket holders and startup ticket holders. Meeting requests in the Slush Matchmaking Tool can be sent both ways. Only includes requests that were accepted by the recipient. Commitment to SDGs is self-reported in a startup's application. Purpose-driven companies are ones that—in their application—reported working towards at least one of the UN SDGs, and mentioned a keyword related to that SDG in their product description.

A look further into the number of meetings that startups received depending on the SDG that they are addressing reveals a healthy level of investor interest in the most pressing problems of our generation. Gender equality, affordable energy, a decent working environment, poverty, hunger and climate change were among the most sought-after thematics.



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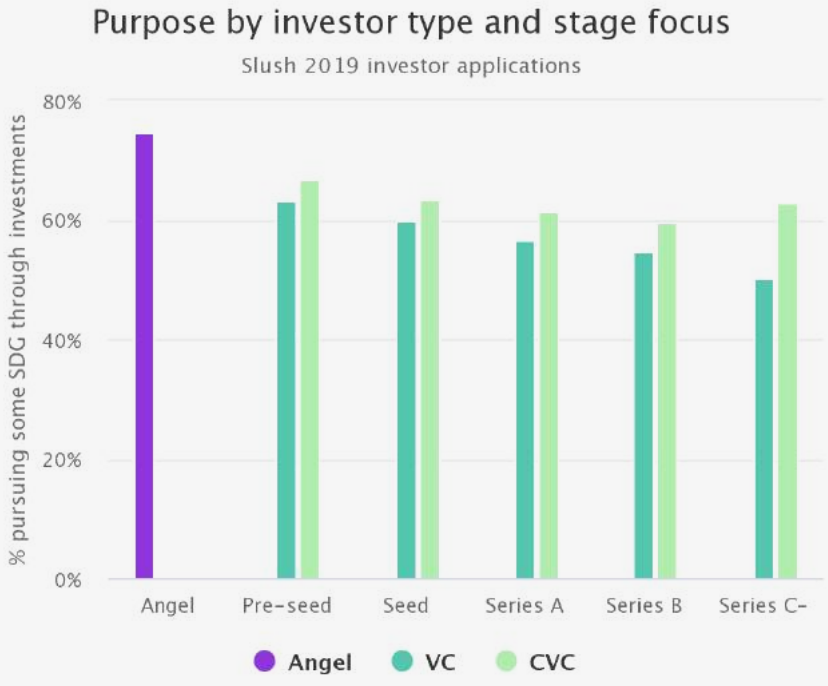
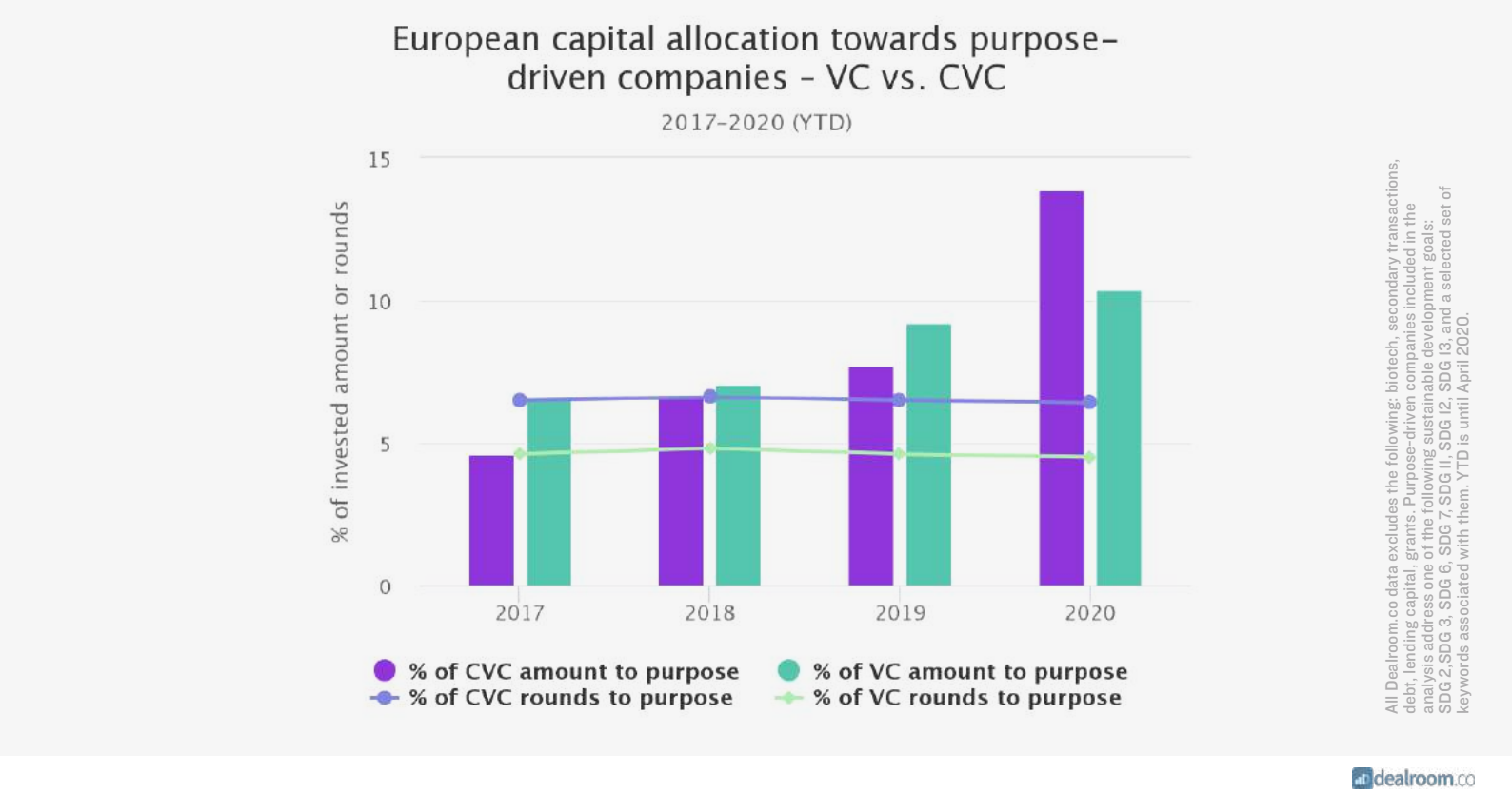
However, these figures don't reveal the full picture.

Data from Slush 2019 indicates that the purpose-driven investment ecosystem is being built from the bottom up, and that VCs are relatively slow to adapt. In our cohort, angels and corporate investors were more likely than VCs to self-reportedly invest towards at least one SDG. What's more, within VCs and CVCs, the share was higher among those investing earlier.



In their applications, investors were asked: "Are you committed to making a positive social and environmental impact through your investments? If so, which UN SDG(s) are you primarily interested in?" Stage focus is self-reported in the applications. Investors could select multiple options. All angels have been stacked together, regardless of stage focus.

Using the dissection of purpose-driven companies from State of European Tech 2019, we see that these preferences convert into investment action. European corporate investors have upscaled their allocation of funding into purpose-driven companies more radically over the past few years than traditional VCs, and have consistently been more likely to participate in a round going towards a purpose-driven young venture.

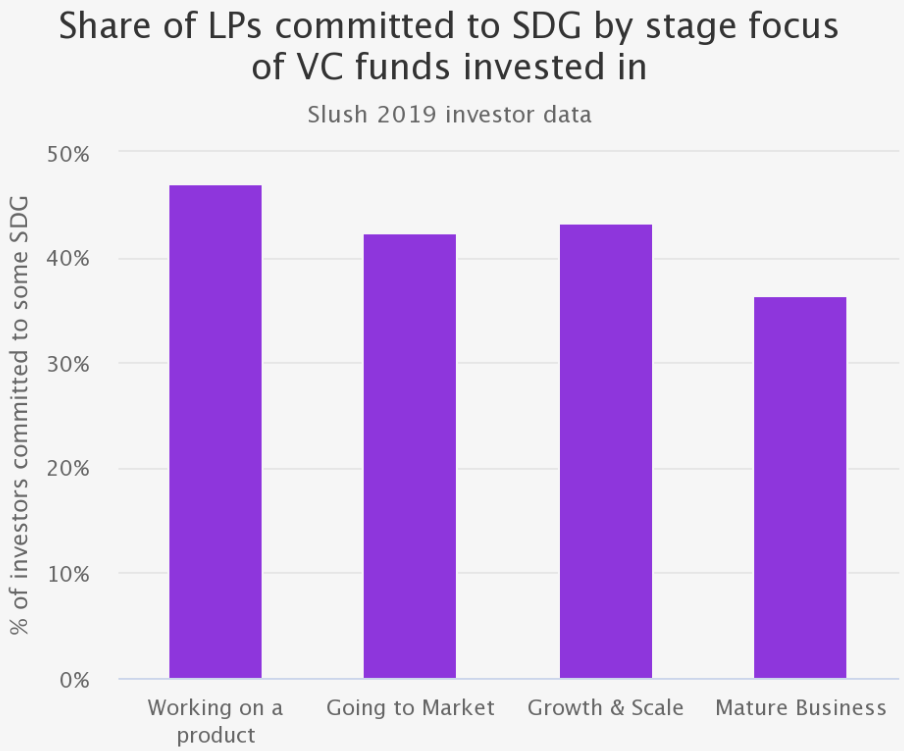


So, what is holding venture capitalists back from funding solutions to our most pressing problems?

"Currently, in a world where you're chasing the next round of funding, you have to optimize for the growth instead of the social impact your company has."

- Investor

A clue to this question is offered by data on limited partners (these are the institutions that invest in VC funds) at Slush 2019. Across the board, their reported level of commitment to SDGs is lower than that of the firms they fund, and decreases for LPs that invest in VC funds focused on more mature companies.

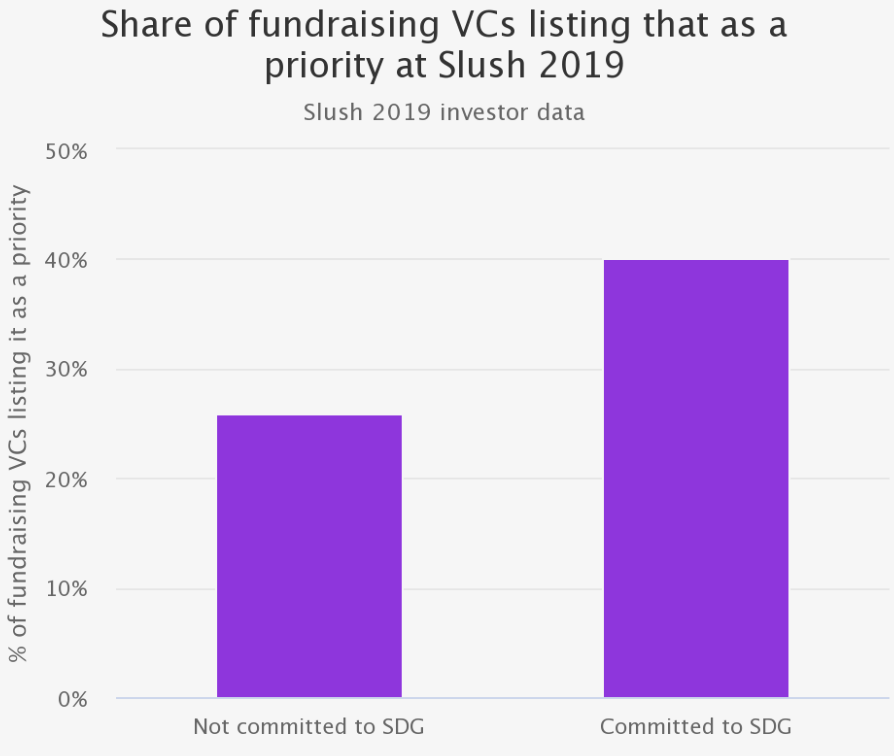


In their applications, investors were asked: "Are you committed to making a positive social and environmental impact through your investments? If so, which United Nations SDG(s) does your company or fund require portfolio companies to contribute or commit to?" Stage focus is self-reported in the applications. Investors could select multiple options.

SLUSH

In other words, there doesn't seem to be capital available for VCs that would like to back purpose-driven young ventures; particularly not where they are trying to embed that theme into late-stage investments.

This inkling is backed up by a look at VC firms at Slush 2019 that were in the process of raising a new fund at the time. Out of that cohort, firms committed to addressing some SDG through their investments were 55% more likely to list fundraising as a priority coming to Slush, suggesting that they may be struggling more.



Only those investors that self-reported that they were raising a new fund at the time of application. Investors are divided by whether they self-reportedly invest towards at least one UN SDG. Expectations for Slush 2019 are self-reported at the time of application. Investors could select any number out of 12 expectations.

SLUSH

Angels and corporate investors aren't subject to this same external pressure and accountability. Angels invest out of their own pocket, whereas corporate investors invest company money, either directly or through a separate fund structure.

"Shifting from a pure growth mindset to a more purpose-driven and sustainable way of creating and building businesses demands for a wide cultural change, especially on the investor and financier side."

- Operator

As reported in State of European Tech 2019, LPs that have invested into European venture during 2014–2018 represent a heterogeneous mix of entities, ranging from government agencies and corporations to high net worth individuals, pension funds and beyond. These aren't entities that naturally see a purpose beyond profit as part of their investment mandate, and may not yet have seen sufficient evidence of the contention that purpose equals profit.

However, change is starting to happen as we speak. In a survey to Finnish Private Equity Investors (of which the majority were VC firms), Aalto Fellows found that 97% of investors have seen LP interest towards impact increase in recent years.

In other words, it seems that founder preferences and early-stage investors may just be enough to push the whole funding landscape to gravitate towards a more purposeful thesis.

"We don't explicitly consider impact as a parameter when we invest. Still, 60% of our portfolio is what you could classify as "impact startups". This is because the most talented founders are naturally gravitating into that space, and solving real problems. Money follows talent."

- Investor

VIRTUOUS BUSINESS IS GOOD BUSINESS

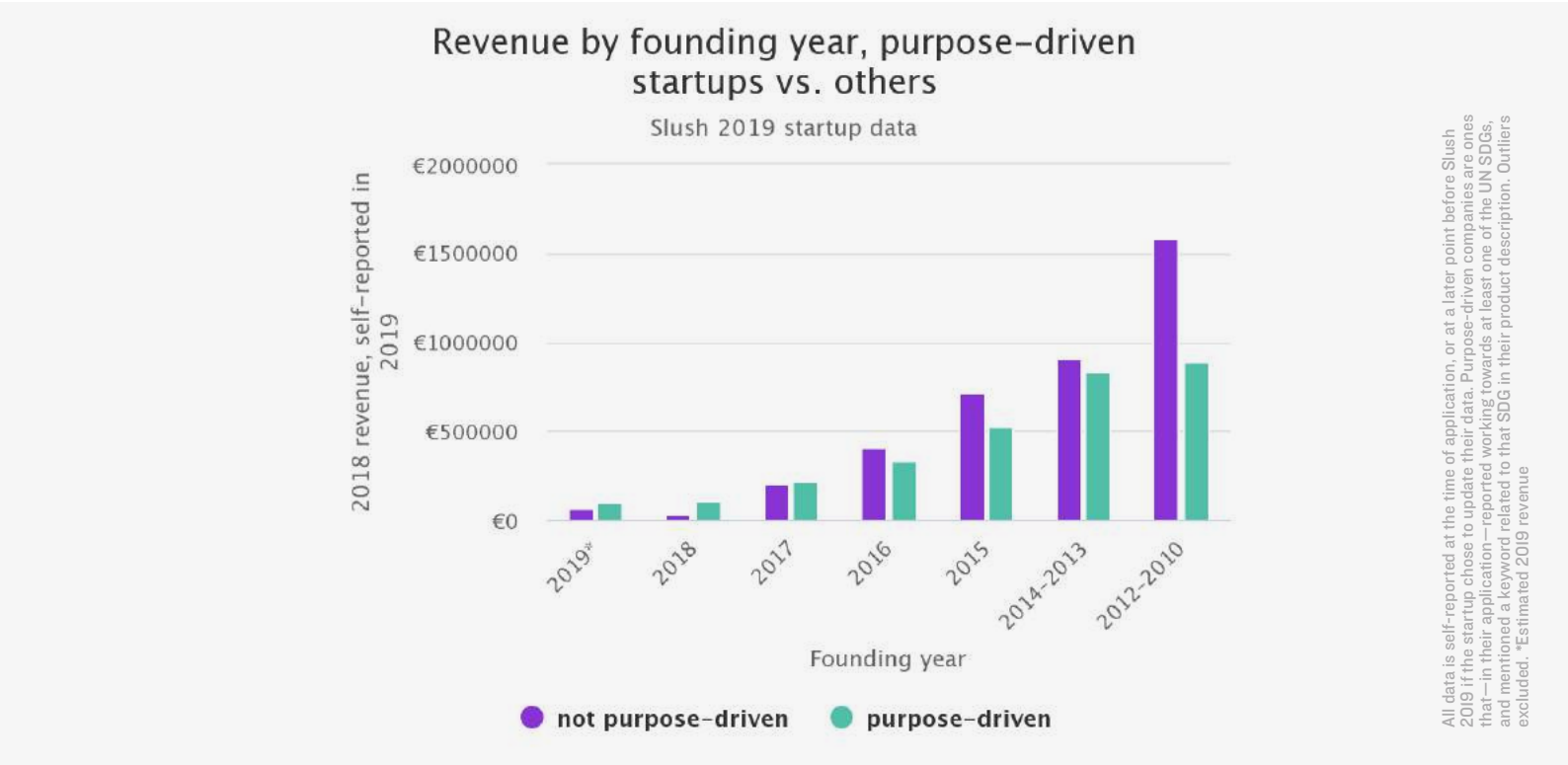
Making purpose a core aspect of business makes economic sense. In an eight-year research project, MITSloan and BCG established that the companies who took a comprehensive approach to sustainability ended up benefiting the most from it in financial terms.

In fact, in a recent whitepaper, the World Economic Forum found that businesses can enhance their commercial performance by becoming more sustainable and responsible.

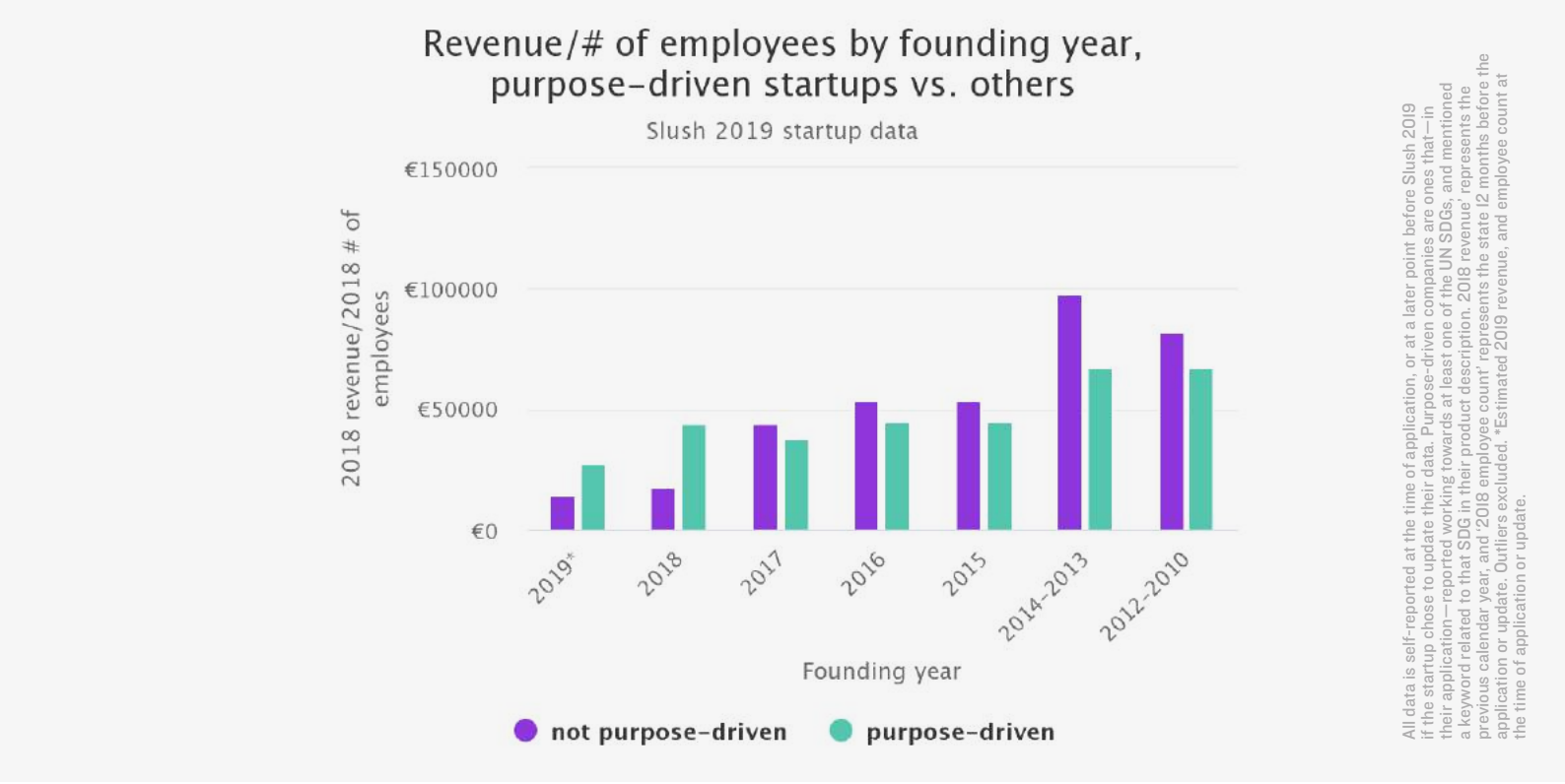
"Venture capitalists will not only invest more in purpose-driven companies, but they'll also actually be good bets as more consumers make CSR-driven purchase decisions."

- Operator

Data from our 2019 cohort suggests the same; purpose-driven startups founded in 2017–2019 generated more revenue than their counterparts. However, it also indicates that tables have only recently turned in favor of purpose-driven businesses, with numbers reversing for startups founded in 2016 or earlier.



Roughly the same holds true when controlling for how many people the startups reported employing 12 months before submitting their application. Virtuous business truly is becoming good business.



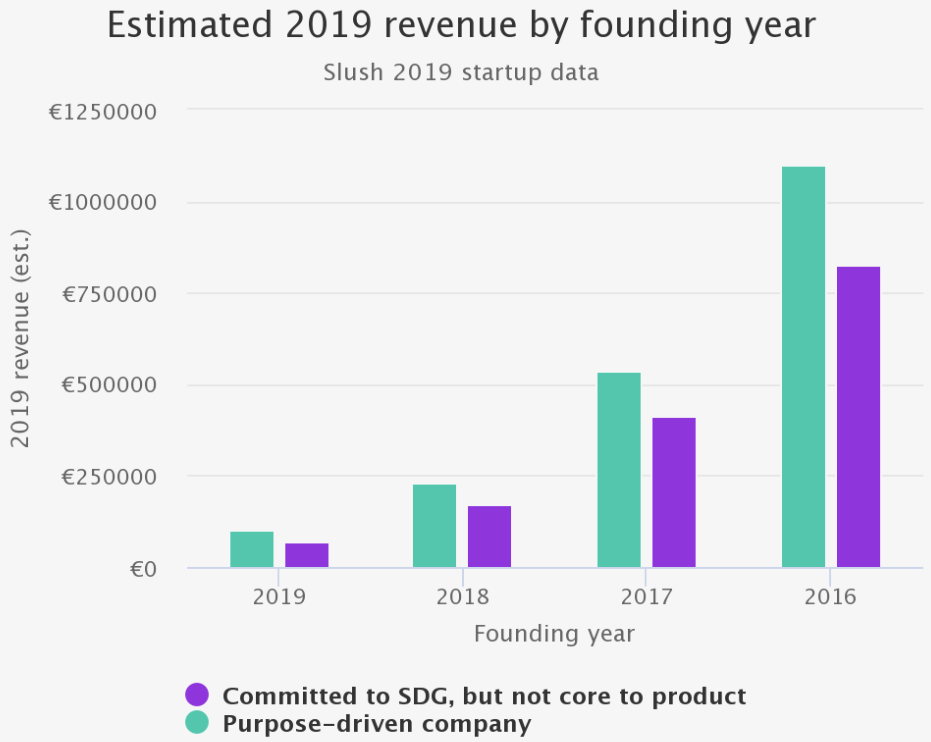
"In the future, competitive advantages are formed from positive impacts."

- Investor

Our data also verifies that the commitment to purpose needs to be holistic for these benefits to materialize. Companies that self-reportedly work towards some SDG, but don't back that up in their product description, systematically generate less revenue than those that tick both boxes.

"We think that having a purpose-driven mission actually adds a lot more resiliency for the business. When the customers, regulators and partners see the value, other than monetary, that a company has, they're more willing to help them when things are going wrong. It creates a much stronger business if you have more than profits to show."

- Investor



All data is self-reported at the time of application, or at a later point before Slush 2019 if the startup chose to update their data. '2019 revenue' is the startup's best estimate at that point in time. Purpose-driven companies are ones that—in their application—reported working towards at least one of the UN SDGs, and mentioned a keyword related to that SDG in their product description. Outliers excluded.

SLUSH

Managers of more mature companies are well aware of this reality. In their report titled The Business Case for Purpose, HBR Analytic Services surveyed some 500 executives regarding their view on purpose. 81% believed that purpose-driven firms deliver higher-quality products and services and 80% stated that having a shared sense of purpose correlates with higher customer loyalty.

One could argue that this is driven by inevitability; we are running out of asymmetric opportunities in the space of banal problems that have been emblematic of the past few decades of digitalization. As some might put it, the age of apps is coming to an end.

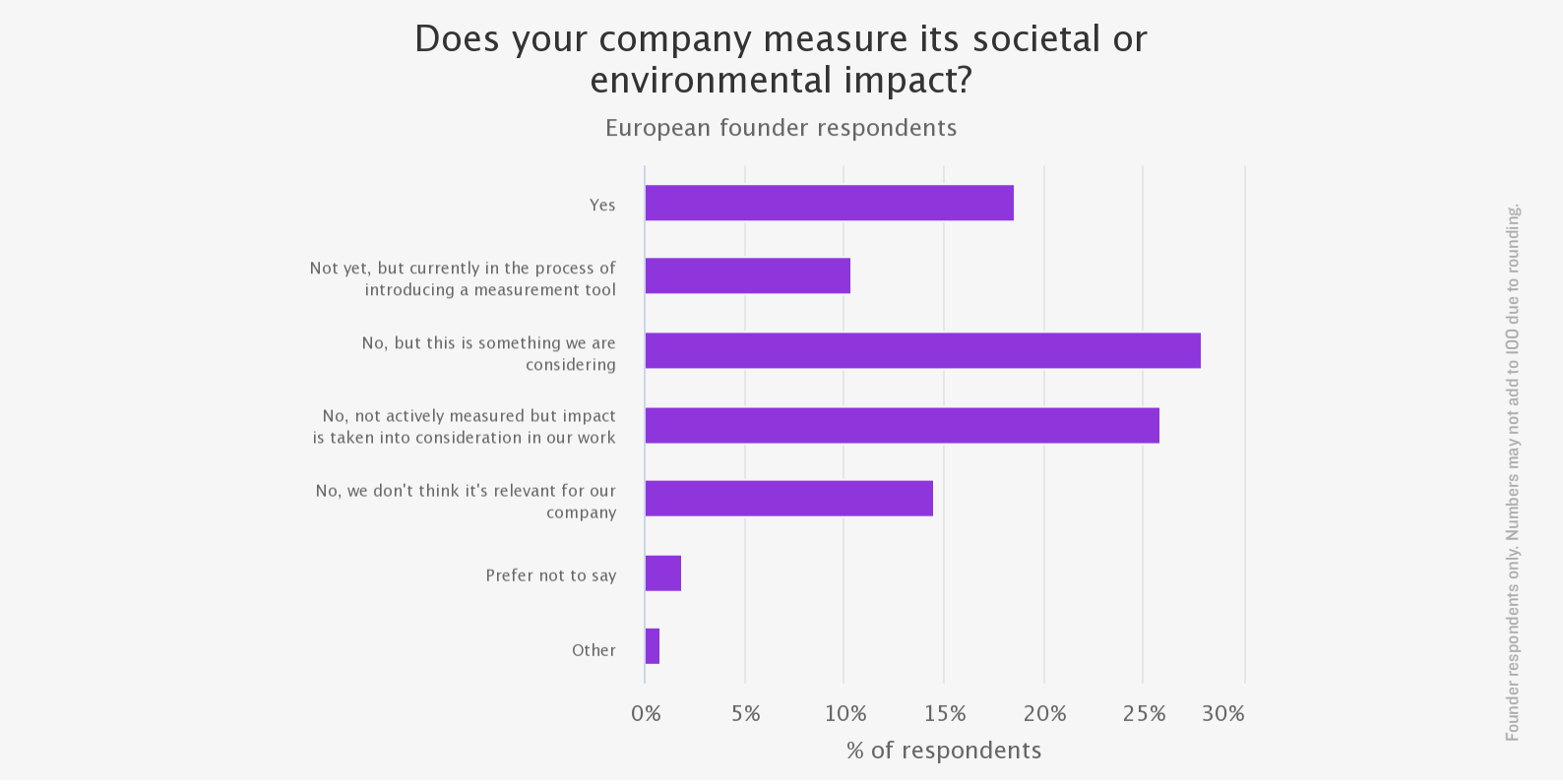
"Tech is slowly moving into behemoth industries, because building another dog walking app isn't going to solve anything, and it's not where the opportunities are anymore. It's time to solve the harder problems."

- Investor

ALL COMPANIES, PURPOSE-DRIVEN OR NOT, NEED TO ADDRESS THEIR IMPACT

Human beings will always have mundane problems. Correspondingly, we need companies that address those problems. However, this doesn't mean that these companies wouldn't have an impact on the surrounding world. All companies, regardless of the problem set that they solve for, need to understand, measure and optimize that impact.

Across the ecosystem, understanding and effort in this department is still superficial. While just 14% of founders responding to the State of European Tech survey in 2019 said that their company's societal or environmental impact is irrelevant, only one in five founders were measuring it. Among those who reported doing so, the most common method was CO2 measurement, which is great, but one-dimensional.

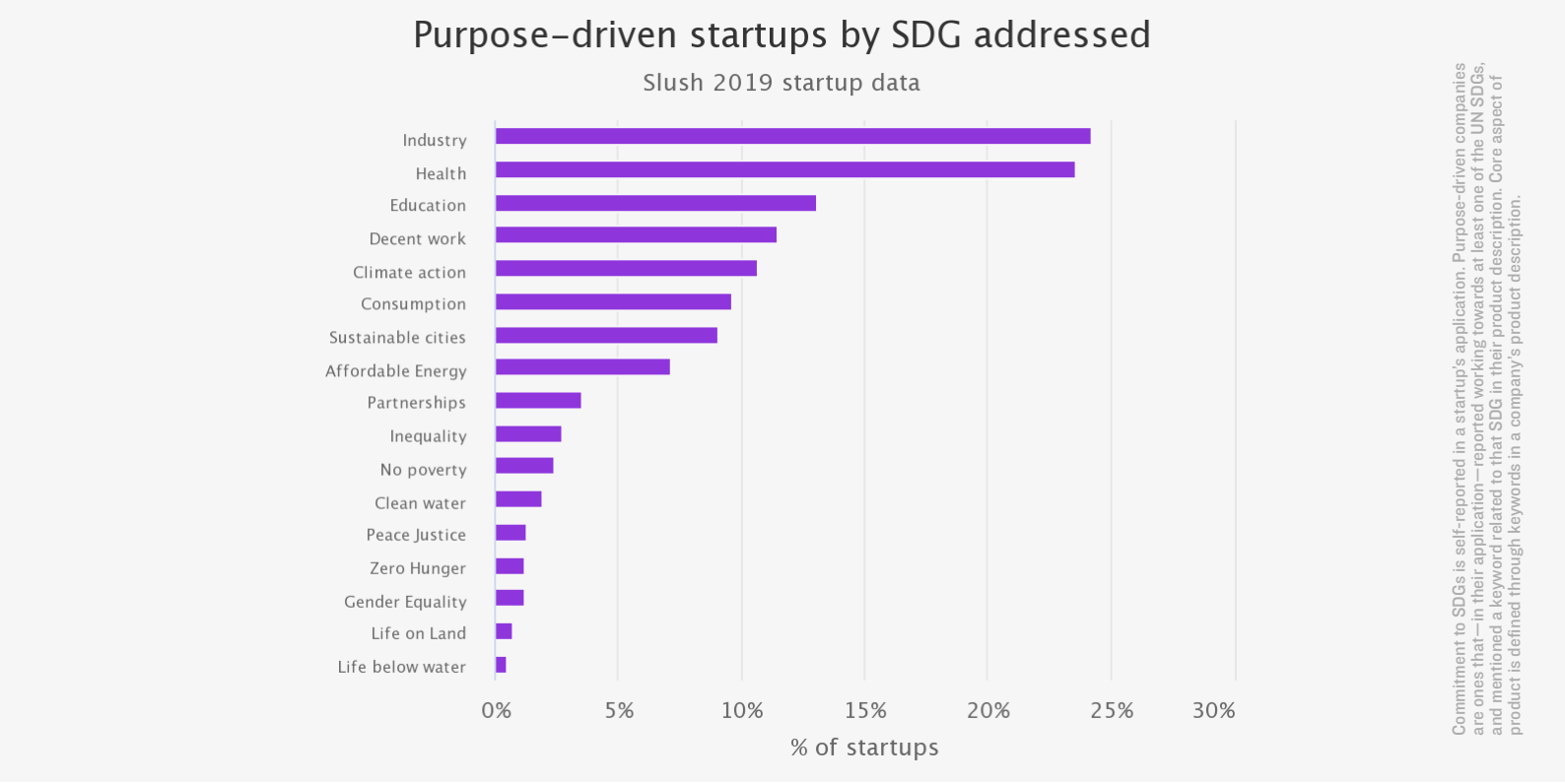


"In a year or two investors will be asking startups if they have thought about their wider impact on the world."

- Founder

Importantly, purpose-driven companies aren't exempt from this requirement. BCG found that tech's sense of purpose is oftentimes too narrow and can end up having negative consequences on society.

Data on the purpose-driven young ventures at Slush 2019 hints at the same. While we've established that a sense of purpose is generally strong, rather few companies are addressing issues that would benefit the developing world; global partnerships, inequality, clean water or hunger. Similarly, very few companies are directly moving the dime in terms of gender equality.



"There's a lot of talk about how sustainable development goals are going to drive innovation, but, and I think this might be a bit heretical, I don't think that these sustainable development goals are the only rules of how to solve problems. They're quite limited in fact. They're just topics."

- Founder

So, how do we incentivize companies to holistically optimize the net of their outputs to the surrounding world?

In his 1970 essay, the economist Milton Friedman argued that the sole responsibility of a company should be to maximize value for its shareholders. In other words, he proposed that a commercial entity should not be held accountable to social responsibility.

Friedman's thesis has been indisputable business orthodoxy ever since. It was devised in response to a previous management theory, popular in the 50s and 60s, called stakeholder capitalism. Under that doctrine, businesses are expected to optimize for all stakeholders that are affected by their activities. Now, a stakeholder approach seems poised for a comeback.

"This benefit-driven, economics-first motive, I think, is soon gonna be indistinguishable from a more wider societal balance scorecard type approach."

- Investor

Boston Consulting Group (BCG) and the World Economic Forum (WEF) are just two of the many groups to recently endorse stakeholder capitalism. One of the five tenets of BCG's Winning the 20s leadership agenda is "optimizing for both social and business value". WEF, in turn, updated their Davos Manifesto for 2020 for the first time since 1973, writing that "the purpose of a company is to engage all its stakeholders in shared and sustained value creation".

"There has been an increasing shift away from shareholder value management to stakeholder management approaches."

- Investor

Obviously a shift like this in both business zeitgeist and legislation is something that reaches far beyond the startup ecosystem. However, young companies are demonstrably very adept at business model innovation when it comes to more limited problems. What's to say that that energy can't be redirected to reinvent capitalism itself?

FOR OUR EFFORTS TO STICK, WE NEED TO CREATE BUSINESSES THAT DON'T JUST GROW, BUT LAST

Few working in tech will have escaped the WeWork debacle that unfolded in late 2019. The co-working giant's intended public listing received an initial valuation of $47B, before closer scrutiny sent the number dwindling. The IPO was delayed and subsequently cancelled, CEO Adam Neumann was pushed out of the company, layoffs ensued, and WeWork's largest financial backer, Softbank, was forced to come to its rescue.

2019 also saw some notoriously disappointing tech IPOs out of Silicon Valley. Uber, Lyft and Slack all went public in the first half of the year. All three posted negative returns for 2019, with no quick turnaround in sight. After initially promising trading, the public market has abandoned their theses, with stocks down anywhere between 33% and 61% on first-day closing prices at the start of April. Nasdaq was roughly level over that same timespan.

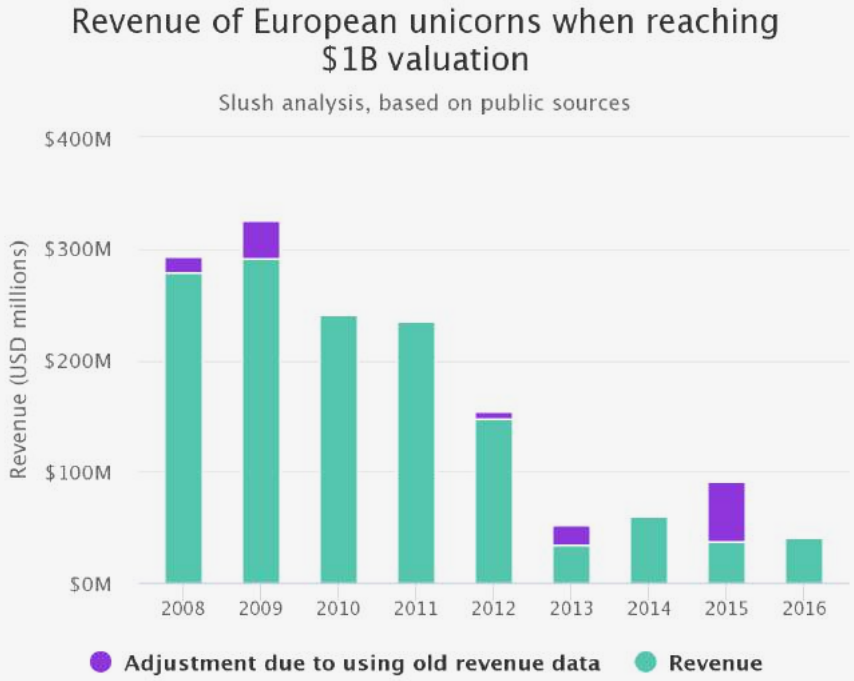
"I personally don't think VCs should exist to fund companies like Uber and Lyft that lose money on every transaction."

- Investor

Already before the ongoing pandemic exposed the inherent risks in such companies, sending Uber and Lyft tumbling, as told in Forbes (Slack has actually benefited from COVID-19), many declared the end of an era in which venture capitalists have been spurring and buying into colossal growth at lofty valuations without regard for a path to profitability.

"The funding climate is going to change. Late-stage company valuations are going to come tumbling down. A reckoning is coming. Uber was the canary in the coal mine of the larger systemic issue. WeWork was the explosion."

- Founder



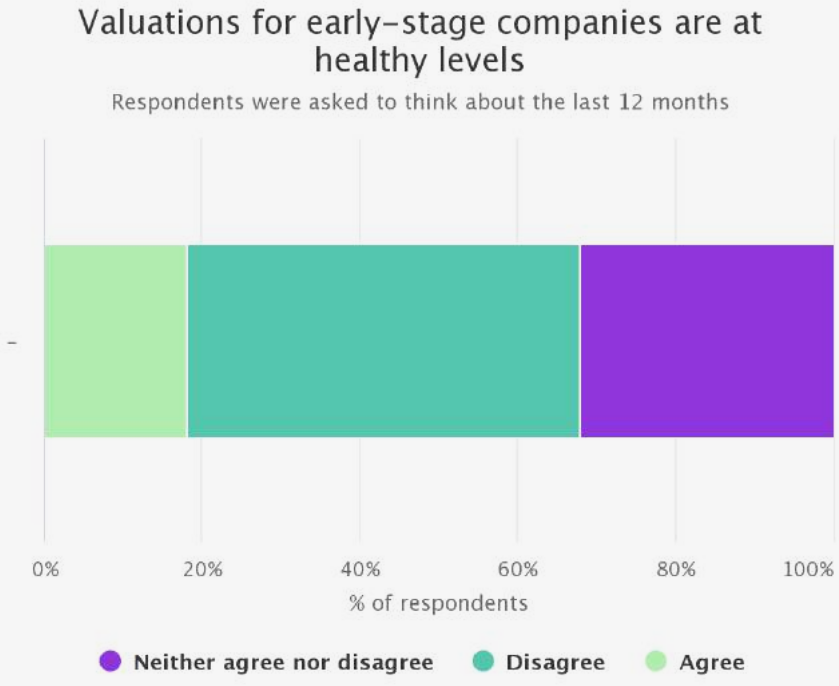
Unicorns were recognized based on Slush analysis. Includes companies that have exited at a valuation of $1B+, or whose latest private valuation exceeds that. For this, Dealroom was used as the primary source of data. Excludes holding companies and corporate subsidiaries. Revenue represents the best public data or estimates available. The correction of revenue data was done using a compound multiple devised from average revenue growth by founding year and by revenue. Unicorns are reported up to and including Jan 2020.

SLUSH

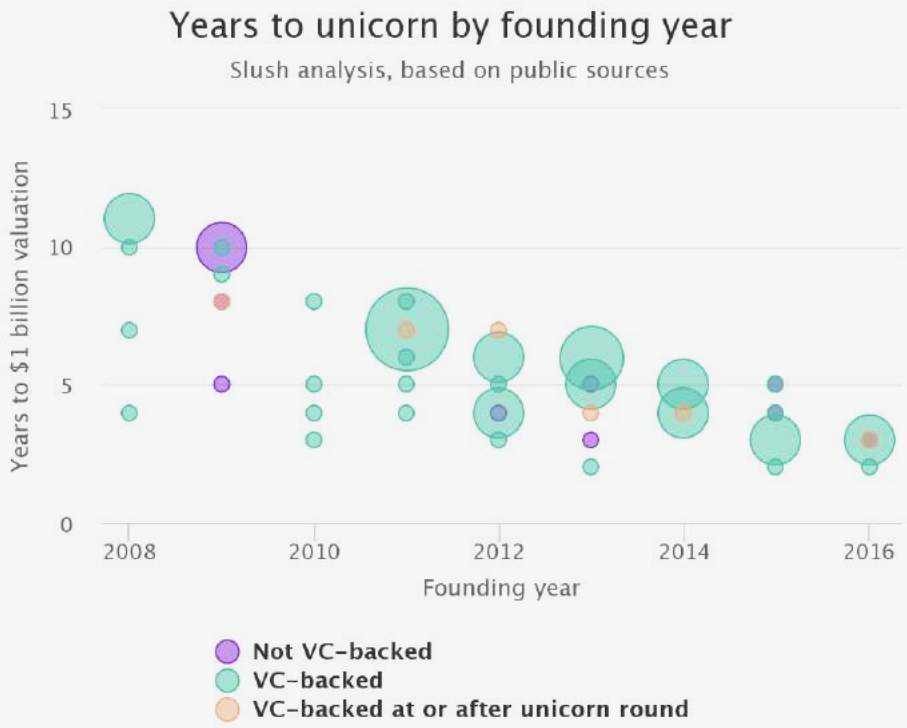
This same culture of speculation has increasingly made landfall in Europe. A look at the 60 European unicorns founded during the past economic cycle reveals that the revenue they generated in the year of their billion-dollar valuation has been slashed into a fraction of what it was previously.

It seems that these higher valuations have rippled down through the stages. As an indication of this, only 32% of venture capitalists taking the 2019 State of European Tech survey considered valuations of European early-stage companies to be at a healthy level. Note that this survey was distributed before COVID-19 took the world by storm.

While speculation has soared, an increasing number of European startups have found a path to a unicorn valuation in just 3–6 years. The overwhelming majority of them have raised venture capital at some point of the journey.



Venture Capitalist respondents only. Numbers may not add to 100 due to rounding.



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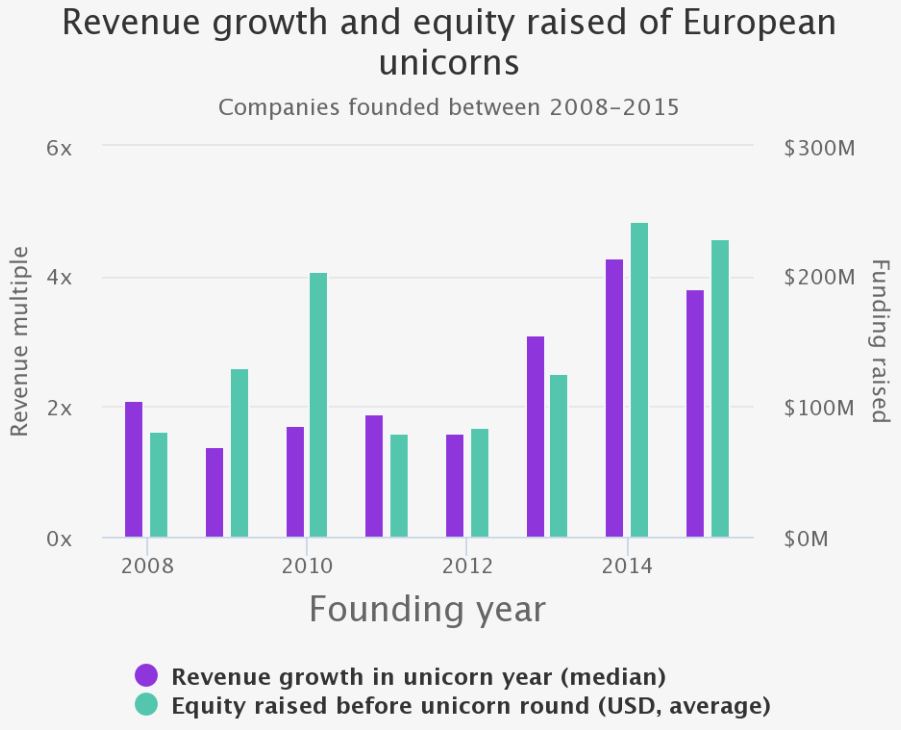
SLUSH

A closer look confirms that this quicker path to a billion-dollar valuation has been enabled by abundantly funded hypergrowth. Whereas unicorns founded between 2008 and 2012 were growing at an average rate of below 2x when reaching the milestone, those founded in 2014–2015 were quadrupling their revenues year-over-year. Similarly, the amount of equity funding that startups raise prior to their unicorn round has roughly doubled.



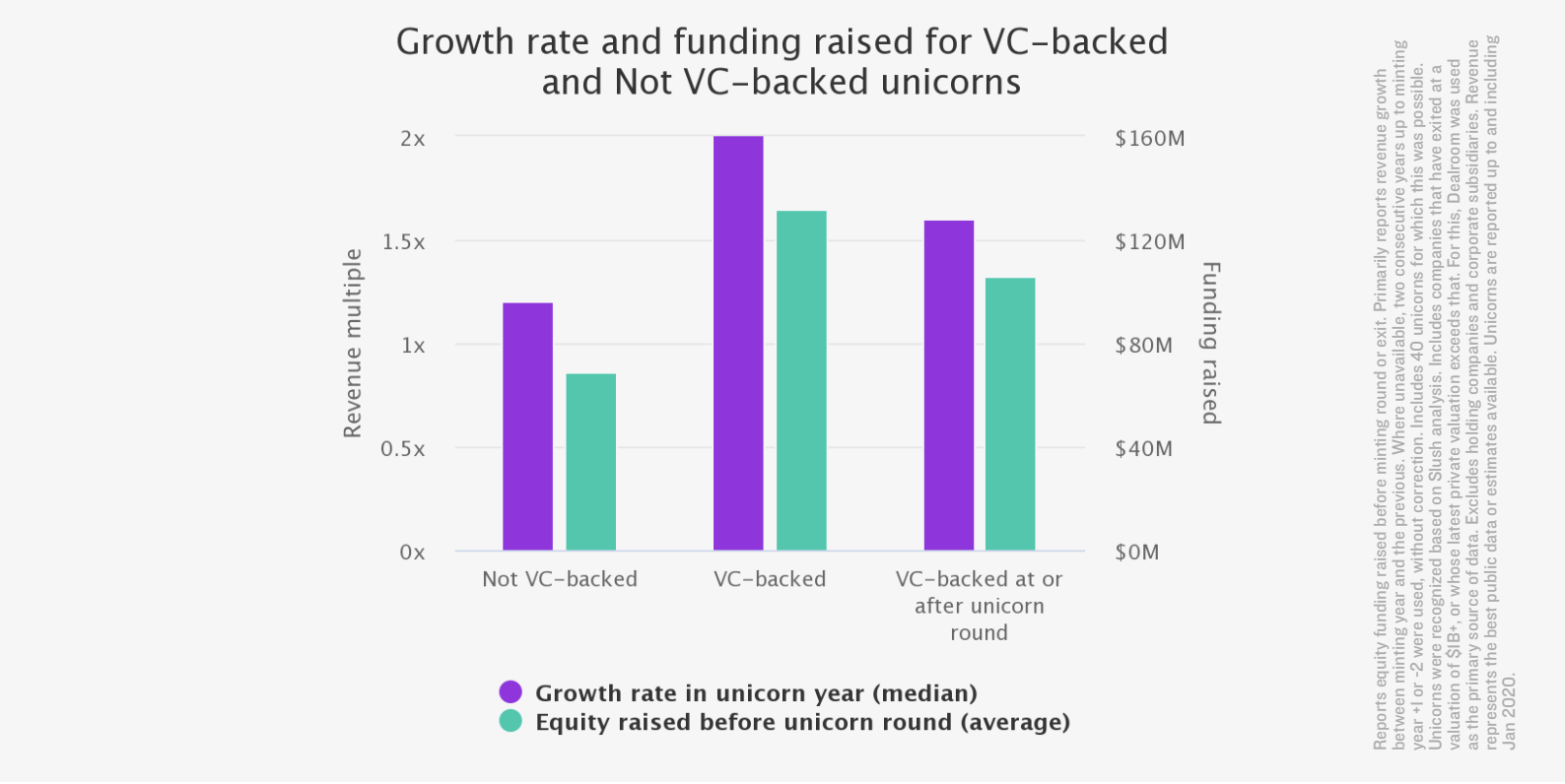
Reports equity funding raised before minting round or exit. Primarily reports revenue growth between minting year and the previous. Where unavailable, two consecutive years up to minting year +1 or -2 were used, without correction. Includes 40 unicorns for which this was possible. Unicorns were recognized based on Slush analysis. Includes companies that have exited at a valuation of $1B+, or whose latest private valuation exceeds that. For this, Dealroom was used as the primary source of data. Excludes holding companies and corporate subsidiaries. Revenue represents the best public data or estimates available. Unicorns are reported up to and including Jan 2020.

SLUSH

"We should idolize building something sustainable in the long run, rather than focusing on explosive growth."

- Founder

Dissecting the unicorns by means of funding reveals that this growth pattern has been specifically emblematic of venture-backed companies.



"The US model of super high growth is not very sustainable. People are being treated as a means of production. The expectations in terms of how crazy hard you work, what kind of growth you expect, and whether you should grow at any cost is going to change."

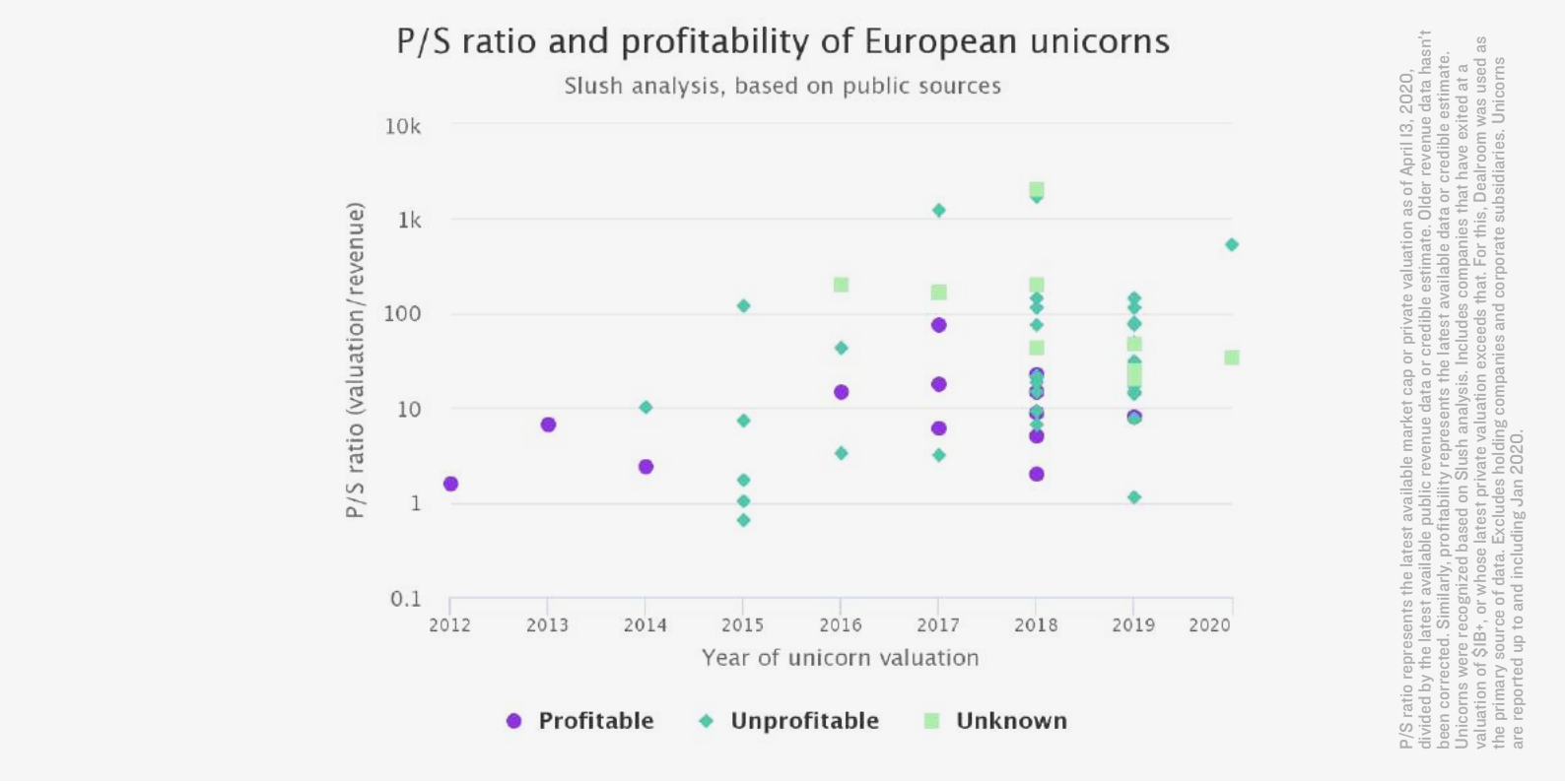
- Investor

So, how many sustainable, big companies have we got out of it all?

It is obviously too early to declare VC's latest experiment with big rounds and rapid scaling a definitive failure. Even if today's bloated giants were on a path to sustained growth and profitability, they wouldn't have got there yet.

However, sufficient time has passed since the first unicorns founded during the last economic cycle were deemed to be worth a billion dollars to examine whether their track record since has lived up to expectations.

A reasonable first order of business for a recently-minted unicorn might be to reach profitability while growing revenue to a level that justifies its valuation. Mapping European unicorns by P/S ratio (that's market cap or latest private valuation divided by revenue), and whether they are profitable or not, shows that successes are few and far between.



SLUSH

Eight companies turn a profit today at a P/S ratio of below 10 — a valuation that could be considered normal for a public company. Notably, two of these eight, Mojang and Outfit7, are gaming startups that didn't raise significant external funding before their respective acquisitions. A third company, Eaton Towers, is private equity rather than VC-backed.

If venture-backed hypergrowth isn't a proven path to sustained business value, why is it being pursued by founders and investors alike?

Firstly, both sides of the table will typically reap the benefits of a successful bet far before a company's ability to produce long-term value is proven. Adam Neumann is a billionaire today, and if things had taken a slightly different course, the public market would have picked up the bill from his company falling from grace.

"There's lot of talk behind the curtains along the lines of let's get a C round in and get the fuck out. Strategic exits will always happen, but we should try building good businesses."

- Founder

Secondly, the unusually high risk of VC as an asset class necessitates unusually high returns. This is heightened by the fact that, even in the best portfolio, the majority of young companies will fail. As a result, out of the dozens of companies that a typical fund will invest in, a few explosive successes will generate all returns.

Thus, VCs can't afford modest, linear success. They push each portfolio company to work exponentially.

"For most entrepreneurs, your company is your only bet, whilst a VC has a number of portfolio companies, and want some percentage of those to succeed, and it's almost irrelevant what happens to the rest. A VC wants to take loads of risk, and sometimes that might not be in the best interest of the company."

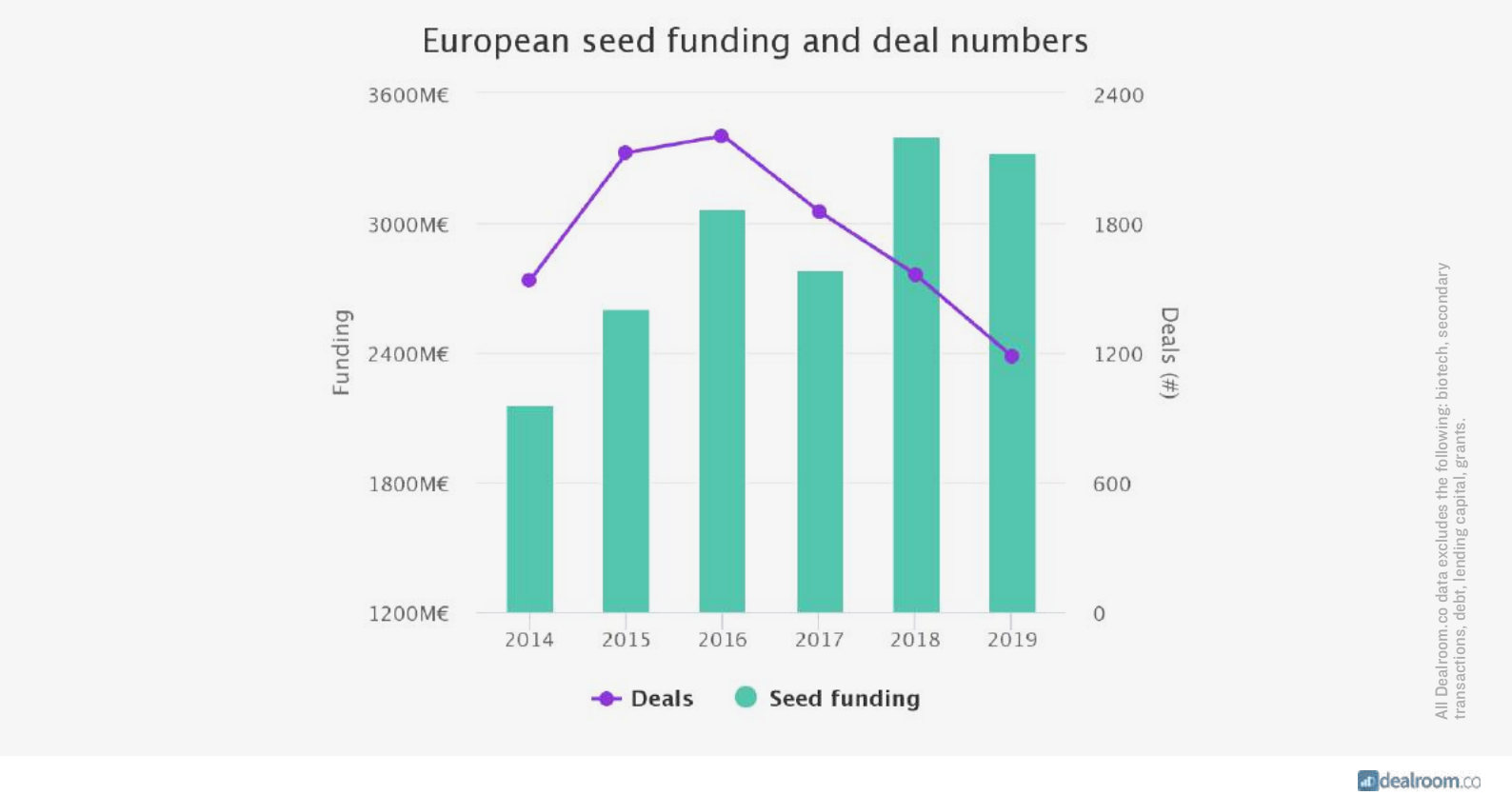
- Founder

Thirdly, some of this haste to scale is a byproduct of the saturated digital world that we live in; one in which success is rare to come by, but astronomical when it happens. When companies rely on replicable IP for their unique selling proposition and anyone can scale a SaaS business infinitely from their garage, burgeoning traction needs to be defended at all costs. Often, the best defense mechanism is scale.

"Digitalization was the worst thing that ever happened to VC. Venture capital became an end to a means, and led to really unsustainable companies."

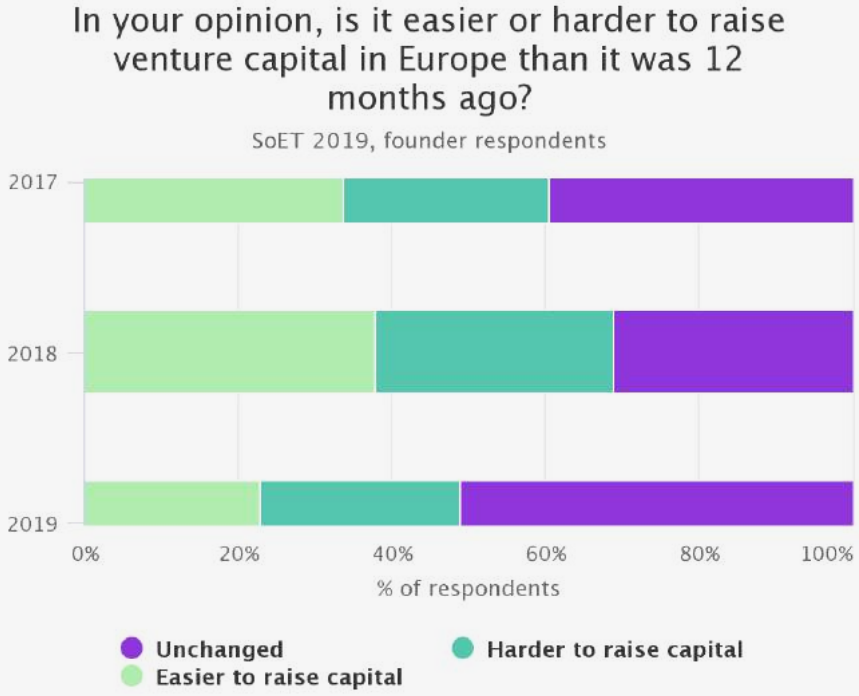
- Founder

Arguably, venture capitalists are now finding the late-stage thesis so appealing that they've started turning away from the original purpose of the industry; unlocking the potential in unproven young ventures. As an indication of this, while total capital invested into European tech has more than doubled between 2014 and 2019, European seed funding has imploded over the past few years. The number of seed funding rounds was down 30% in 2019 from its 2016 peak, and total capital invested has stagnated.



"If you're one of the big generalist funds, unless you can put 50M to work, you're not interested, because even if the company returns 100x, it's not moving the dime. There's more money around than ever and returns in Europe are now as good as in the US. But the funds that are deploying that capital are too big to catch the early-stage stuff."

- Investor



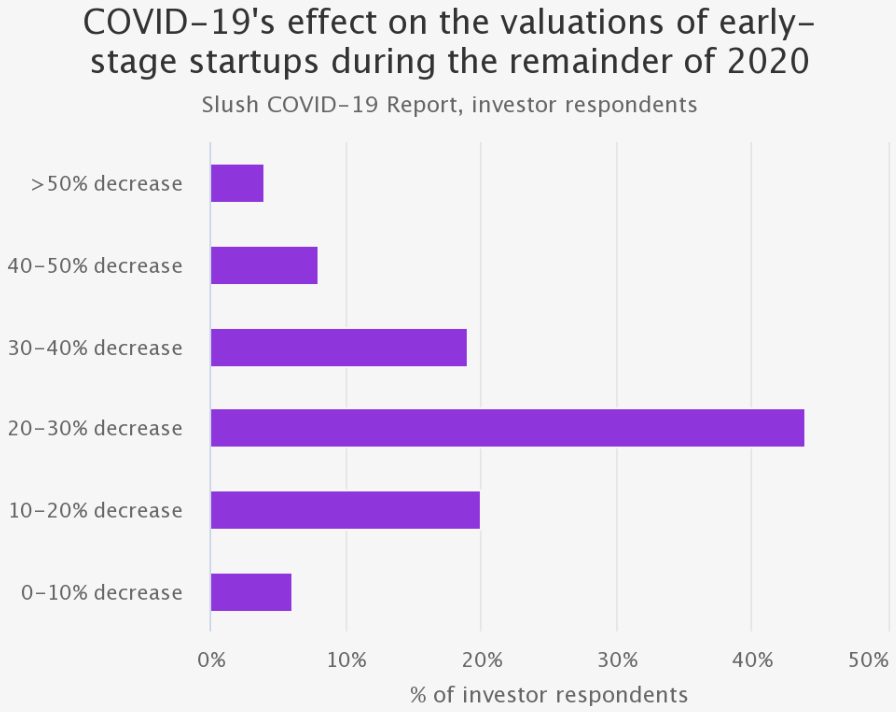
Founders only. Numbers may not add up to 100 due to rounding.

The State of European Tech

Driven by this, 2019 was the first year in the five-year history of State of European Tech in which founder respondents self-reportedly found it harder to raise capital than 12 months prior, with early-stage founders driving that sentiment.

The bottom line is that the explosion of capital in European tech hasn't actually gone towards testing out more ideas in the market, but into chasing less risky returns in the last mile of scaling companies. And as we've seen, while those returns may well be there, the big, important European tech companies that we're all waiting for aren't.

As a last note, [in our recent COVID-19 report], we found that among the pandemic's consequences is a significant dent in valuations. A vast majority of investor respondents estimated that early-stage valuations will be cut by more than 20% in 2020.



Slush COVID-19 survey. Investor respondents only. Numbers may not add up to 100 due to rounding.

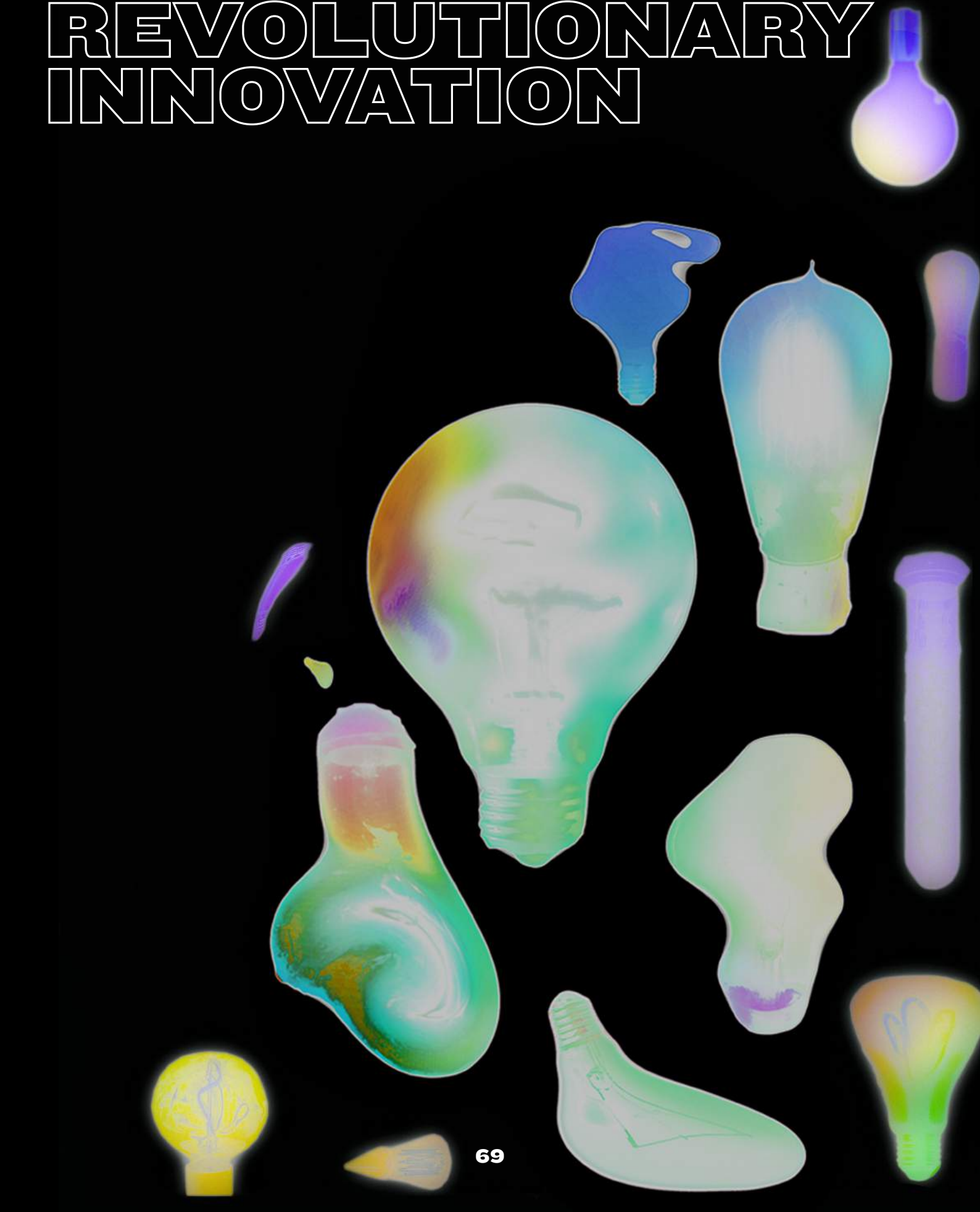
Once we're on the other side of the pandemic and the resulting financial downturn, both founders and investors will need to revisit why they are doing this in the first place. If the answer doesn't revolve around building sustainable, tremendous tech companies for the long run, we should all recalibrate.

"The startup mindset is to build business models 3-5 years into the future. That should be 100 years. We should be building big, influential, sustainable and growing companies that solve challenges and accelerate society towards a better tomorrow."

- Founder

NARRATIVE 3

REVOLUTIONARY INNOVATION



NARRATIVE 3

REVOLUTIONARY INNOVATION

Most of the innovations that will define the 2020s are already in development. Of course, many will still face a long and uncertain path before they are ready for implementation. A common way to categorize these kinds of industry-defining complex new innovations is deeptech. BCG and Hello Tomorrow define deeptech as tech that will have a big impact, take a long time to reach market-level maturity, and require substantial capital.

The European success stories of the past decade have mostly come from companies making incremental improvements within everyday problems, rather than those producing complicated, potentially revolutionary innovation. According to our analysis, among the 60 European unicorns founded since 2008, the most common industries are mobile, software, fintech, and healthcare. With the exception of healthcare, these industries don't inherently lend themselves towards complex, meaningful technological advances.

This shows that we're far from unlocking the full potential of the ecosystem to produce revolutionary technologies.

"People are going to become a lot more interested in frontier science than finding another wearable."

- Investor

At Slush 2019, deeptech companies comprised 30% of all startups.

To recognize these, we used a combination of industry, technology, and keyword analysis, as well as manual scanning. Our aim was to find companies that leverage a novel, scalable, complex technology, or a significant innovation within an existing technology, as a core aspect of their offering. Additionally, this innovation needed to be the company's own, and sold primarily as a product, rather than a service.

Arguably, the deeptech taxonomy is in and of itself a byproduct of the era of digitalization that we've been living through. When the infrastructure for our current, connected world was being built in the 70s, 80s and 90s, all tech was deeptech. Now, as opportunities and returns in the digital space are diminishing, more technically complex innovation is poised for a comeback.

This is important, because humankind desperately needs these kinds of technologies to address the existential threats that it faces. With the return to deep innovation, we need a world of effortless collaboration within and across different factions of society, where all lines of human ingenuity are exploited to the utmost.

"If startups want to tackle the big, complex challenges that the world faces, like climate change, urbanisation and health, they can't work on their own anymore. These problems require us to collaborate closely with corporations, governments and cities."

- Operator

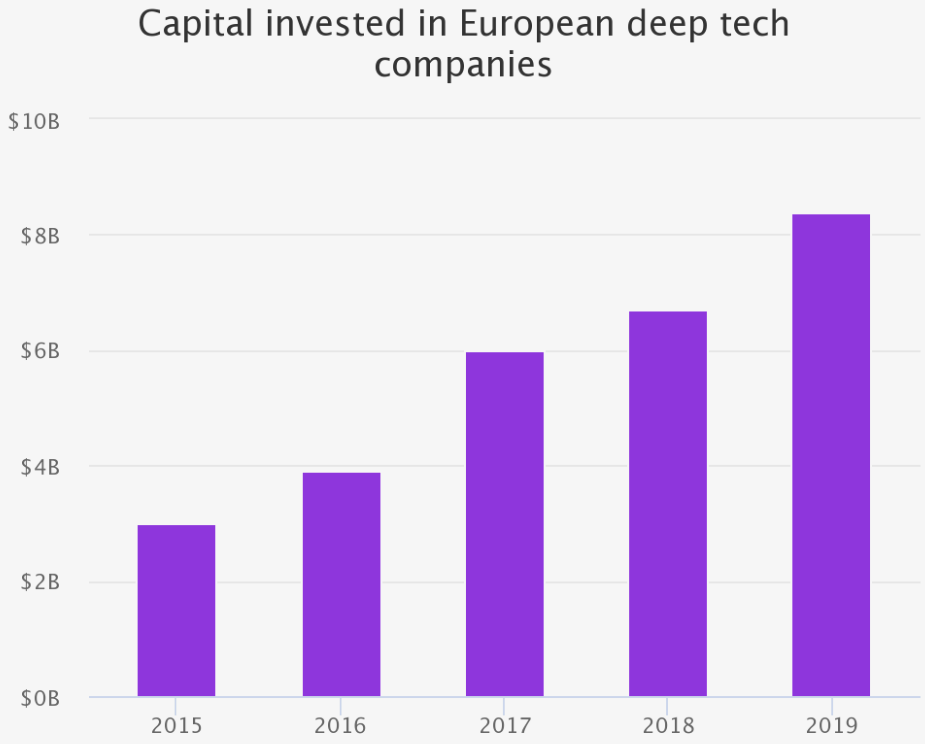
THE CURRENT VC MODEL IS INSUFFICIENT FOR FUNDING FRONTIER SCIENCE

"Increasingly, a lot of value accrues to exponential, non-linear things. There is a need for capital that is willing to endure risk to unlock the potential in such ideas."

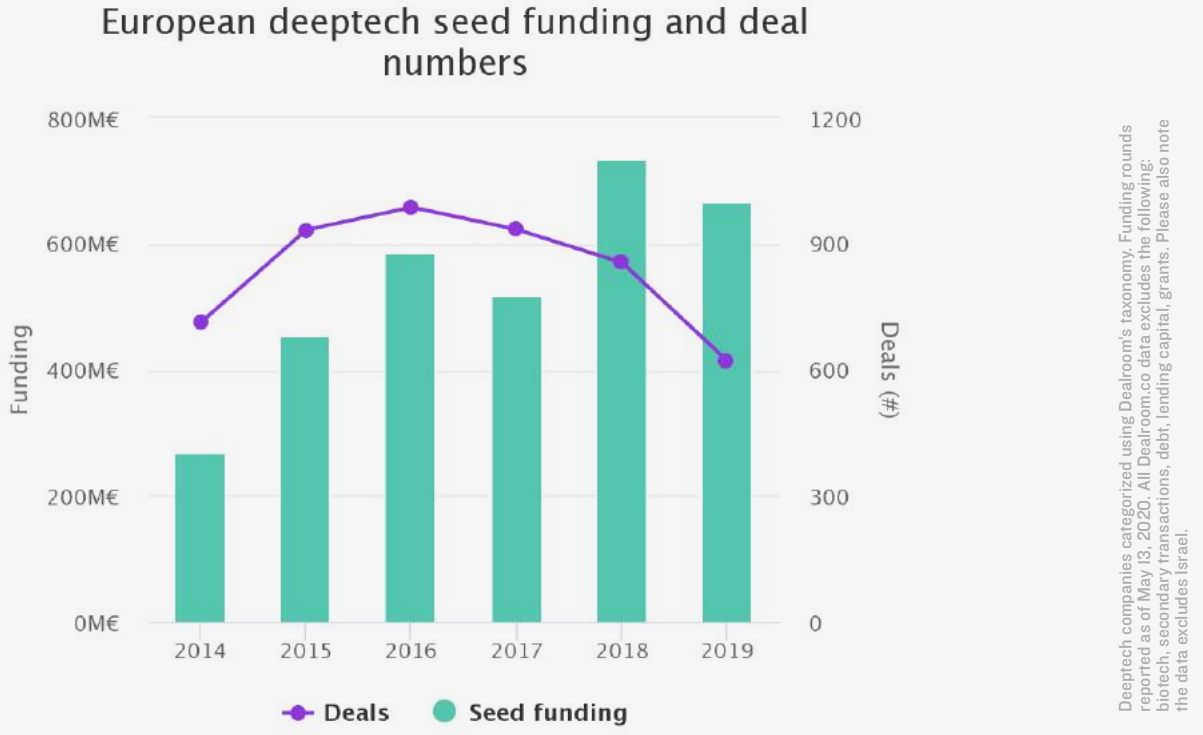
- Investor

Venture capital is a quintessential component of the innovation ecosystem. It goes where other types of private capital won't, paving the way for undemonstrated technologies to be put through their paces, and if all goes well, brought to market.

To this end, it's very hopeful that European investment into deeptech has exploded over the last five years, increasing nearly three-fold to $8.4 billion between 2015 and 2019. This equates to 24% of all capital invested in European tech last year.



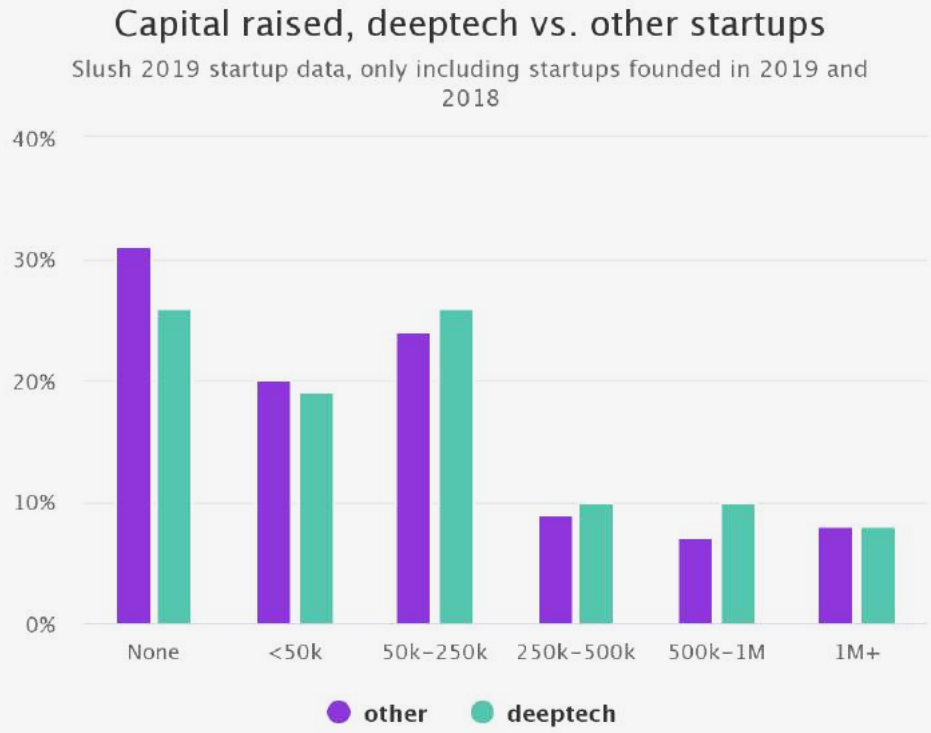
However, this headline figure doesn't reveal the full picture. At the seed stage—where the initial number of ideas tested is determined—capital invested has stagnated and the number of rounds has turned into a steep decline.



So, why are investors not funding profound innovation to the extent they should be?

Deeptech investments are inherently hard. Firstly, they carry with them immense technological risk. To complicate matters further, investors may not be able to fully assess the magnitude of that risk until very late in the startup's journey. The nature of this risk may also be more binary than in other areas of innovation. If a new drug doesn't work on humans after years of promising development, it might be worthless.

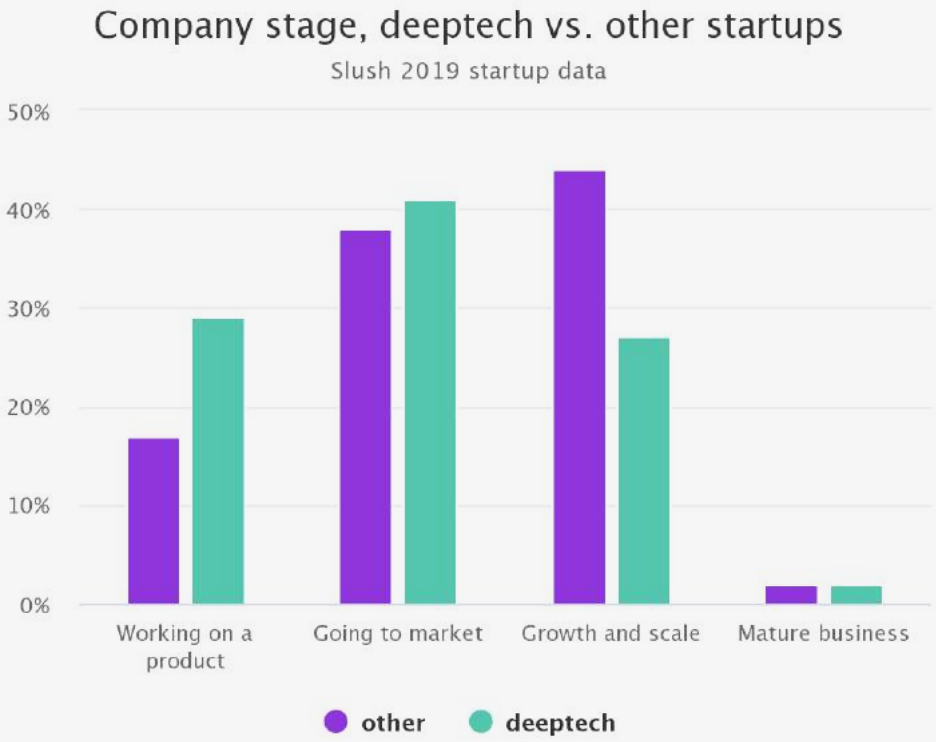
Secondly, deeptech is expensive; startups working on complex technologies require high capital commitments early on in their journeys. This is reflected in our startup application data from Slush 2019. Deeptech startups founded in 2018 and 2019 were more likely to have raised a round of funding than other companies. What's more, where they had raised funding, it was bigger on average than that of their counterparts.



Deeptech companies categorized using Slush's own taxonomy. See the methodology section for a definition. Funding data is self-reported at the time of application, or at a later point before Slush 2019 if the startup chose to update their data, and represents the current figure at that time. Accepted applications only.

"There's a 10-year journey from taking a company from a startup to a unicorn. But equally, there's a 10-year journey from taking fundamental science to something that's suitable for a startup."

- Investor



Deeptech companies categorized using Slush's own taxonomy. See the methodology section for a definition. Growth stage is self-reported at the time of application, or at a later point before Slush 2019 if the startup chose to update their data, and represents the current judgement at that time. Accepted applications only.

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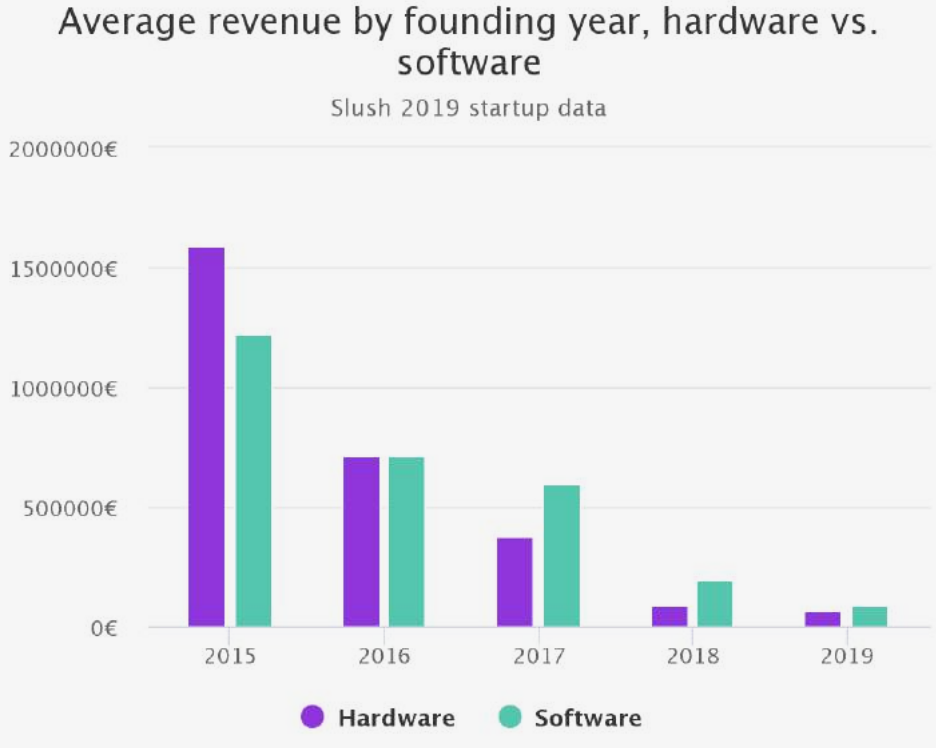
Thirdly, deeptech is slow to market. This is inherently problematic for VCs that need to produce returns within the lifecycle of their fund—usually 10 years. Startup data from Slush 2019 evidences this point. Despite being of the same age on average (2.6 years), only 27% of deeptech startups had reached the Growth & Scale phase, compared to 44% of other startups.

On a similar note, looking at the revenues of hardware startups at Slush 2019 reveals that they take much longer to take off than those focused on software, but 5 years into development, overtake their counterparts.



All data is self-reported at the time of application, or at a later point before Slush 2019 if the startup chose to update their data. 2019 revenue represents the startups best estimate at that time. Companies that reported working with both hardware and software excluded.

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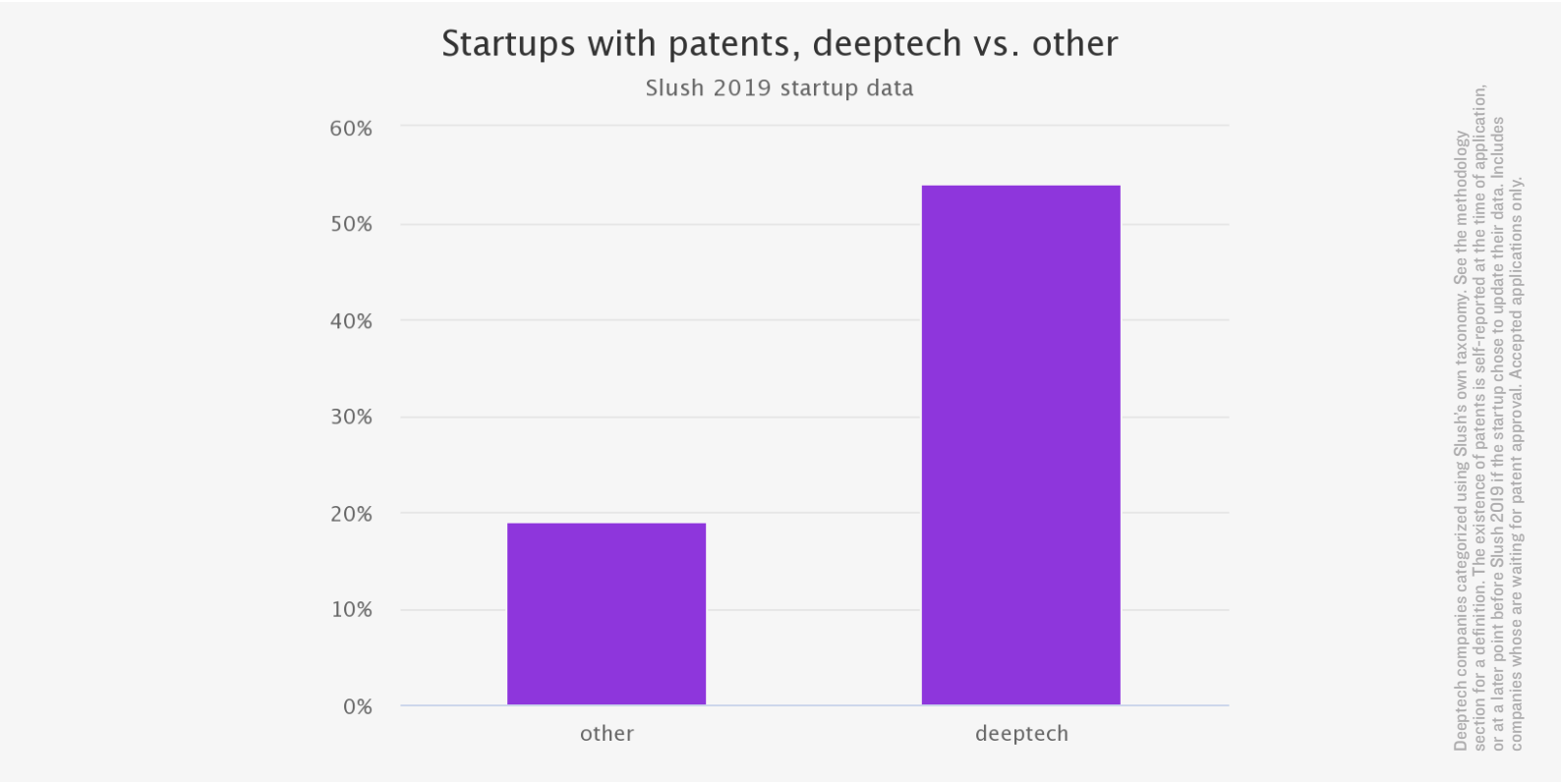
Note that while deeptech and hardware are not synonymous, they are inextricably linked. Complicated technologies typically involve producing something physical, and conversely, hardware innovations are typically more complicated in nature. 59% of deeptech startups at Slush 2019 were leveraging hardware, compared to 16% of other companies.

Driven by this, we are seeing an emergence of some much-needed backend innovation in venture capital. For example, US-based Future Ventures raised their first, $200M fund early last year, focusing on deeptech coupled with a strong sense of purpose. Their first fund has a 15-year lifespan. Speaking at Slush 2019, one of the founding partners, Maryanna Saenko, emphasized the importance of that additional time: "If you look at a company like SpaceX — year nine is really when you start to add fuel to that fire, quite literally, and continue to support the company and not thinking about winding down your position. So with a 15-year fund we are able to give our founders more runway, and more commitment." This phenomenon is yet to make landfall in Europe at scale.

Lastly, it's worth noting that, when successful, deeptech startups are defensible and thus attractive investments. They produce solutions that are hard for competitors to replicate and often protected by intellectual property. According to our 2019 startup data, 54% of deeptech startups have patented some aspect of their product, compared to 19% of other startups.

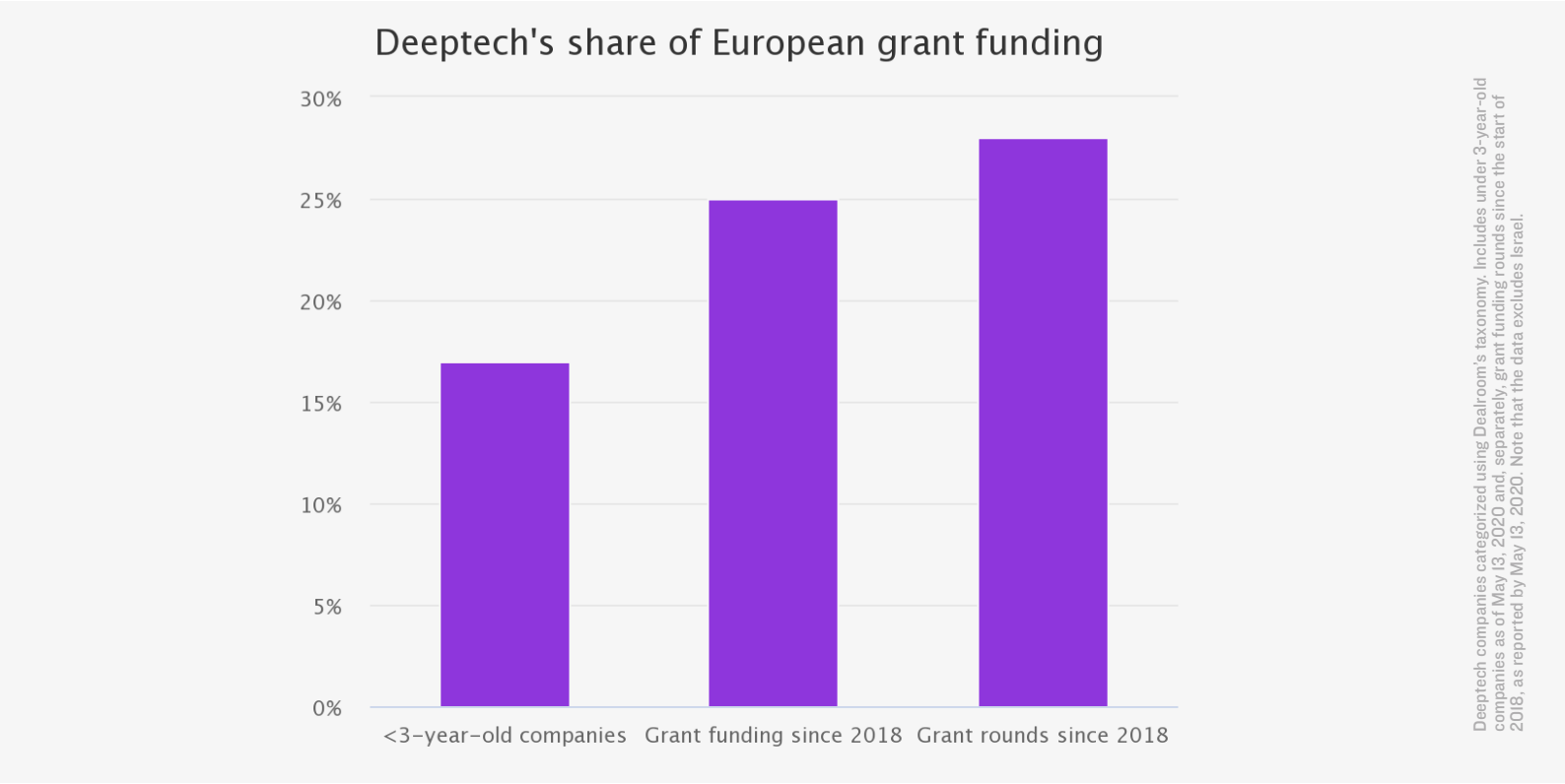


Clearly then, in order to fully reconcile the realities of deeptech with venture capital, we're in for some overdue back-end innovation and diversification in what funds look like.

DEEPTECH COMPANIES RARELY FOLLOW THE TRADITIONAL FUNDING PATH

Because traditional VCs remain insufficient to fund the revolutionary innovations that we need, young deeptech ventures often have to look to alternative means of funding for a path to market.

Early on, far more deeptech ventures than other types of startups leverage grants. Deeptech startups represent 17% of Europe's under three-year old companies, yet have raised 25% of the continent's grant funding since 2018, and 28% of grant rounds.



"We need the government to fund frontier science for the betterment of mankind. The VC model isn't compatible with ideas that don't materialize within the next few years. So governments play an important role in that vacuum."

- Founder

"A lot of investors are much more risk-averse now. They'd rather invest in something that has a proven trajectory. In a way, that stifles innovation. There needs to be money available for companies that are willing to take bigger risks and push things in new directions. There seems to be a gap in prototype funding."

- Founder

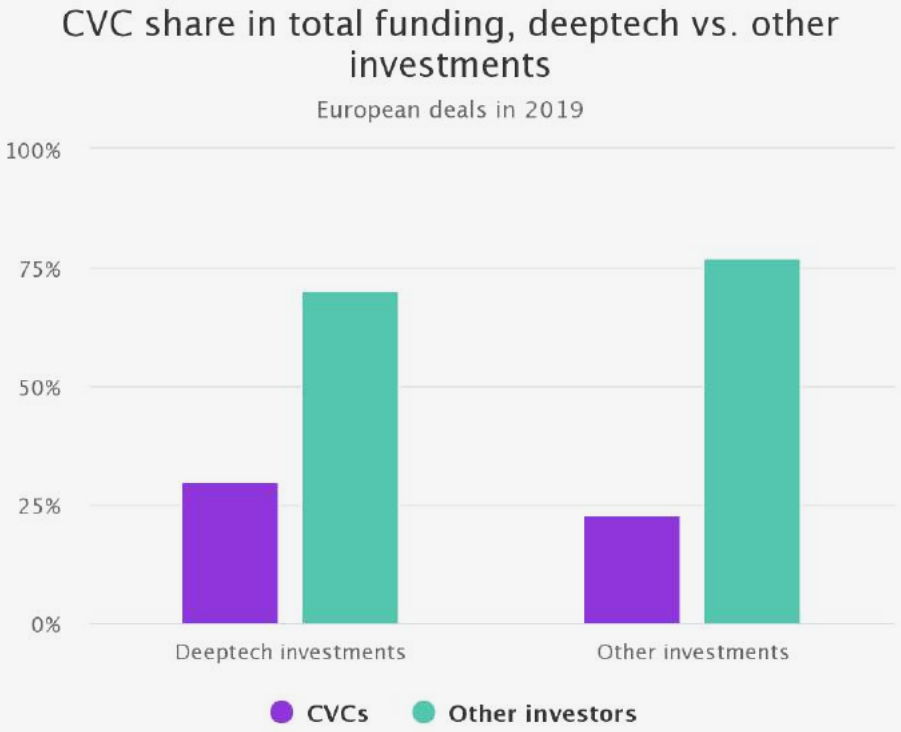
However, this alone is inadequate. The European Investment Bank has noted that companies developing Key Enabling Technologies (KETs) run into trouble after their initial grant funding has been depleted. This is the point at which young companies have to turn to the private markets. In EIB's view, those markets aren't there. Due to grants being modest in size (the average European deeptech grant is €642k), this need usually arises early on in the development process, when companies remain dependent on external financing.

EIB also came to establish the same point that we touched on previously; underinvestment in frontier science is driven by VC's lack of knowledge on the topic. Their interviews indicated that investors suffered from a lack of understanding of the technical and economic viability of deeptech innovations.

"You need techies in the mix in VCs. We have proper deeptechies involved, which they typically have in California. European VCs tend not to."

- Investor

The role of Corporate Venture Capital is emphasized in this equation. Due to the absence of external capital, corporate funds aren't subjected to the same level of pressure to produce quick returns. What's more, many make strategic investments within the same vertical as the parent company, which substantially increases their ability to make intelligent judgements about the technical risk incurred.



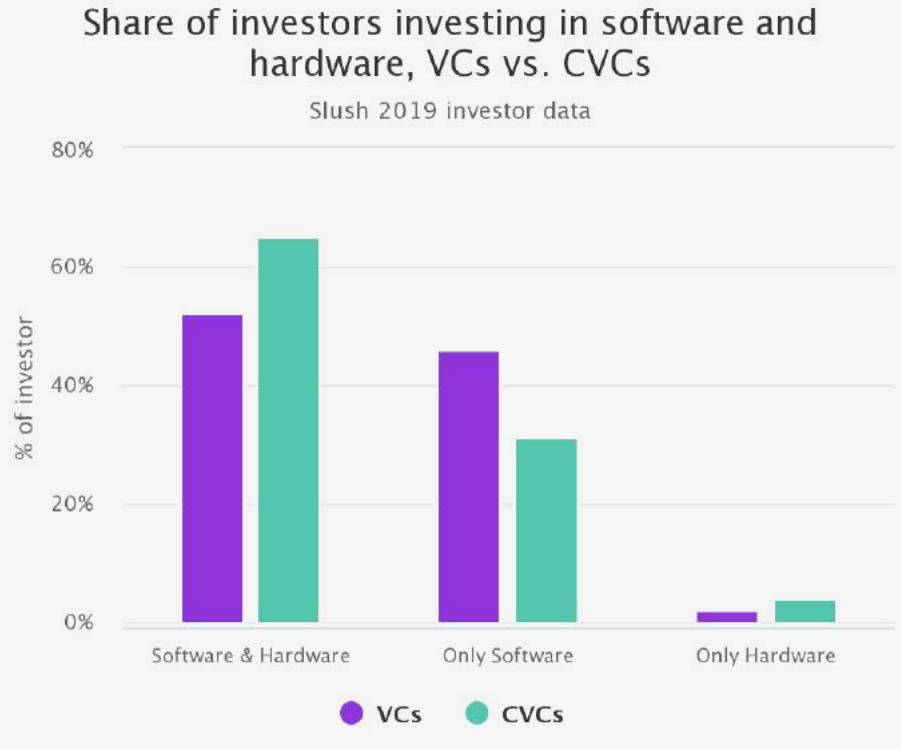
Deeptech companies categorized using Dealroom's taxonomy. Includes 2019 funding rounds, as reported by May 13, 2020. All Dealroom.co data excludes the following: biotech, secondary transactions, debt, lending capital, grants. Please also note the data excludes Israel.

dealroom.co

47% of CVCs at Slush 2019 stated that they prioritize investments connected to their own product or line of business.

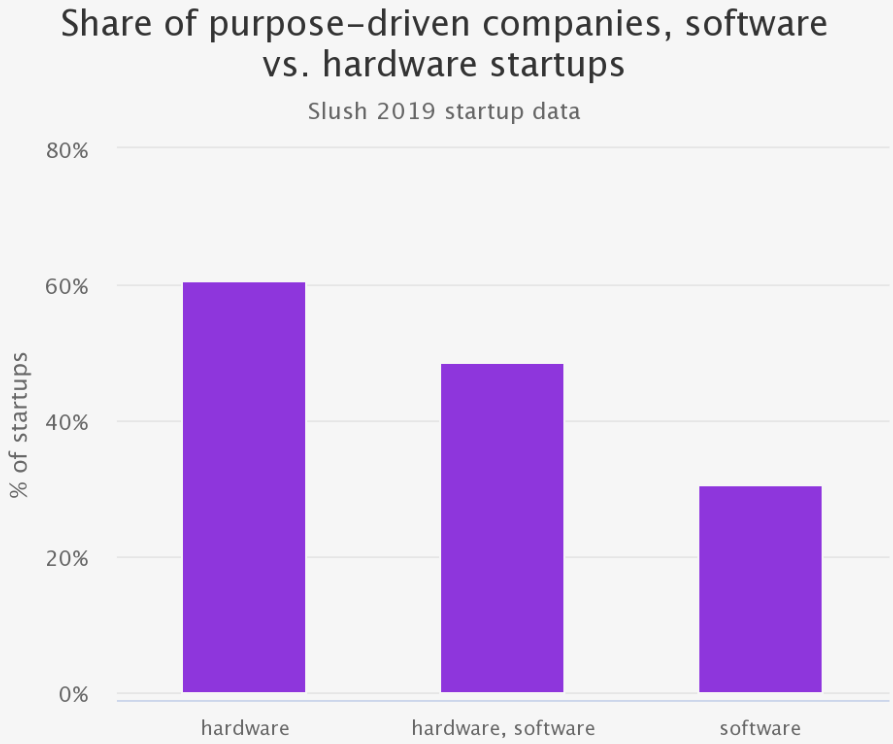
The importance of CVCs for Europe's deeptech ecosystem is reflected in the continent's funding numbers. According to Dealroom's data, CVCs participated in 25% of all deeptech seed rounds in 2019. That compares to 17% of other types of seed rounds.

This is backed up by investor data from Slush 2019. 69% of CVCs reported that they invest in hardware startups, compared to 54% of VCs. As elaborated on earlier, hardware and deeptech are not synonymous, but closely related.



Data is self-reported in Slush 2019 investor applications. Accepted applications only.

This funding gap is particularly concerning due to the fact that inventions on the frontier of science are often necessary for tackling mankind's most pressing problems. At Slush 2019, hardware companies were twice as likely as software startups to also tackle one of the UN's SDGs as a core cadence of their product.



"Currently, many big problems need hardware-based solutions, which are harder to scale and offer longer return cycles. So the way VCs operate will have to change somehow to facilitate this."

- Founder

The bottom line is that traditional VCs still overlook deeptech. Alternative funding paths are important, but insufficient. As a result, Europe runs the risk of missing out on revolutionary, meaningful technologies. We simply can't afford that for much longer.

CORPORATIONS CAN OFFER DEEPTECH STARTUPS A LOT BEYOND CASH

The potential role of corporations in the deeptech ecosystem extends far beyond investments. Many established companies have the expertise, technical capabilities and market access to unlock the potential in startups that are developing revolutionary technologies.

However, corporate-startup collaborations are still held back by a lack of knowledge about best practices, and in some cases, by prejudice. Companies on both sides of the chasm aren't sufficiently aware of the potential that collaboration poses, and poorly executed projects may have led to suboptimal experiences. What's more, the disruptive nature of startups causes occasional tension. Young companies may be worried that corporations are out to leverage their IP in a predatory manner, whereas corporates may be reluctant to give emerging competitors access to their customers.

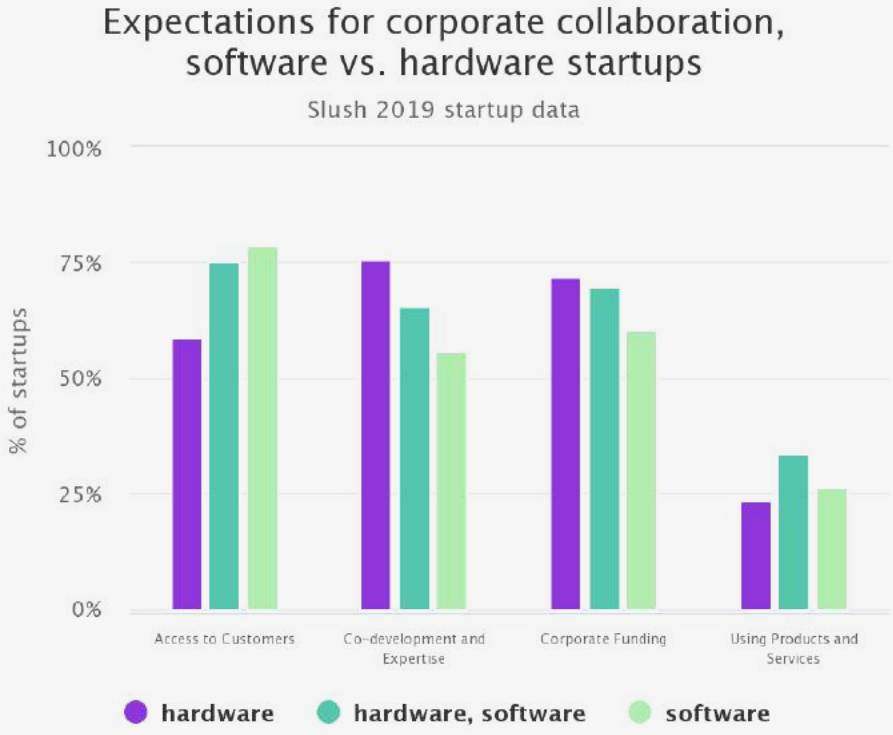
Moreover, in their whitepaper, WEF states that startup reservations include a fear of losing funding in case of changes to the corporate's strategy, and a concern about top-down treatment. Corporates, in turn, struggle with trust without references and the 'not-invented-here' problem. Clearly then, mistrust takes many forms and hinders fruitful collaboration.

"There is lots of mistrust between startups and corporations, as startups are worried that corporations could be trying to steal their IP instead of working with them."

- Founder

However, overwhelmingly, the demand for corporate collaboration seems to be there on the startup side. At Slush 2019, 63% of all startups mentioned that finding partners was one of their main expectations for the event. A similar number; roughly two thirds, filled out a separate application about the way in which they wish to engage with corporates at Slush. That data holds some interesting insights.

While software startups are primarily looking for market access, hardware companies actually prioritize co-development and expertise alongside the access to corporate funding.



Data is acquired from a separate corporate collaboration form that was filled by startups that indicated their willingness towards corporate-startup collaboration.

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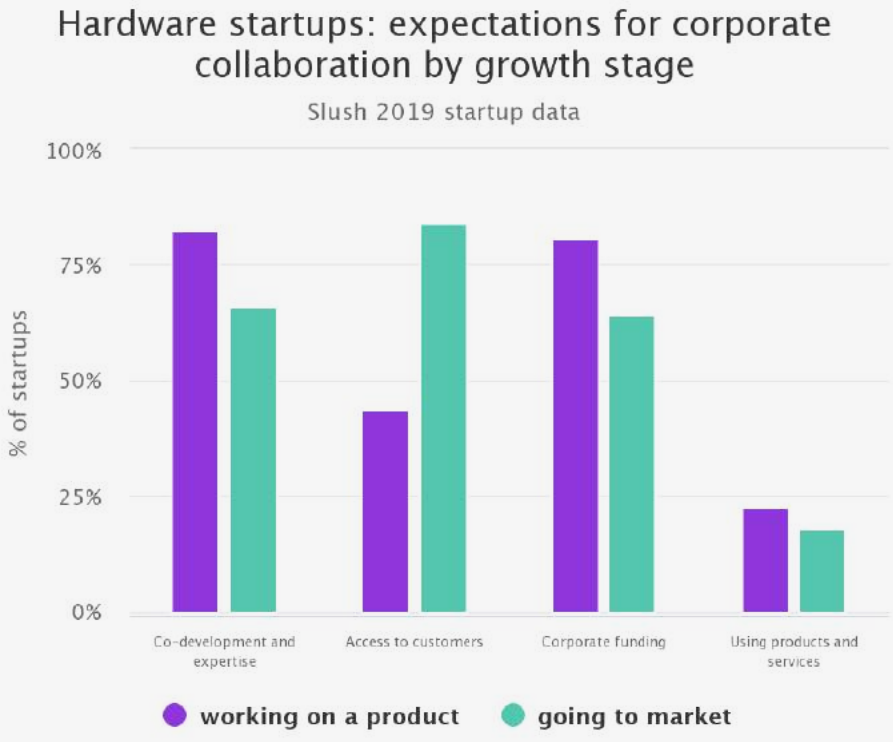
The help that hardware startups look to corporations for changes radically once they've overcome the early valley of death. While working on their product, startups overwhelmingly need corporations for funding and co-development. Once they are ready to hit the market, those needs fade, and access to customers becomes the priority.

To some extent then, our data suggests that it will be up to corporations to unlock the potential that startup collaborations pose.



Data is acquired from a separate corporate collaboration form that was filled by startups that indicated their willingness towards corporate-startup collaboration.

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Working with Founders Intelligence and Startup Europe, Nesta, a UK-based innovation foundation, noted three key findings about corporate-startup collaboration in their Winning Together guide: corporates from all sectors can greatly benefit from startup collaboration, startup programs are not reserved for the world's largest corporates, and most startup programs started small and expanded over time. Their case studies also shed light on examples of European corporates successfully achieving diverse goals through startup collaboration programs. These range from driving a cultural change and creating an innovative brand to solving core business problems and expanding into new markets.

Collaborative innovation is a positive sum game. However, we need a change in attitudes on both sides of the table, and education about best practices. If done right, corporate-startup collaborations will unlock an incredible amount of potential in our most promising young companies, and allow corporations to take part in the benefits.

DEEPTECH STARTUPS WILL NEED TO COLLABORATE MORE CLOSELY WITH GOVERNMENTS AND UNIVERSITIES

It's evident that revolutionary innovation doesn't come about in silos. Alongside young ventures, governments and universities are quintessential to the efficient creation of complex technologies.

"Thinking about the big energy issues, nuclear fusion for example, it's not something that you're going to make happen in your garage. Universities are still the place where the groundwork for solving the problems of humankind happens."

- Founder

Startups are a great vehicle for taking revolutionary innovation to market, but need to leverage the technology and talent that reside in universities. What's more, the incredible pace at which young ventures disrupt our lives leaves insufficient room for introspection and ethical considerations. Without good regulation put in place by legislators, startups run the risk of wreaking havoc in society.

"I'm very worried about a world in which some mobile companies and platforms are more powerful than governments."

- Founder

WEF provides an example of a deeptech company; Quintessence Labs, that was born out of founder Vikram Sharma's idea to explore the commercialization of the quantum sciences. The research was conducted in university labs with government funding as the market matured, while the search for corporate partners began in the early phases of the company's journey. Looking back, Sharma acknowledges the essential roles of academia, government and private industry in his company's success.

This exemplifies how each actor in the trichotomy holds mutually exclusive capabilities and responsibilities. Because of this, the deeptech ecosystem relies on efficient models of collaboration between young ventures and surrounding society.

Today, innovation efforts remain all too fragmented between the three.

"Startups need to partner with industry to address the range of problems we face. Then, the government needs to decide where to place their bets, which kinds of innovation incentives to create? How about project funding or tax incentives for projects with high technical risk?"

- Founder

With that, let's dive deeper into the ways in which startups should collaborate with academia and government.

UNIVERSITIES - *RESEARCH, IP & TALENT*

Much of mankind's best knowledge resides in universities. When it comes to frontier science in particular, universities have unparallelled research, IP, and human resources.

"A time is going to come when universities and startups work together to push frontier research and solve complex problems. Universities are going to be the most central actor in developing the ecosystem in the right direction."

- Founder

However, academia alone rarely turns science into products that benefit humankind, and even more rarely takes those products to a material scale. This has led to various structures for spinning off promising technologies into startups, with varying success.

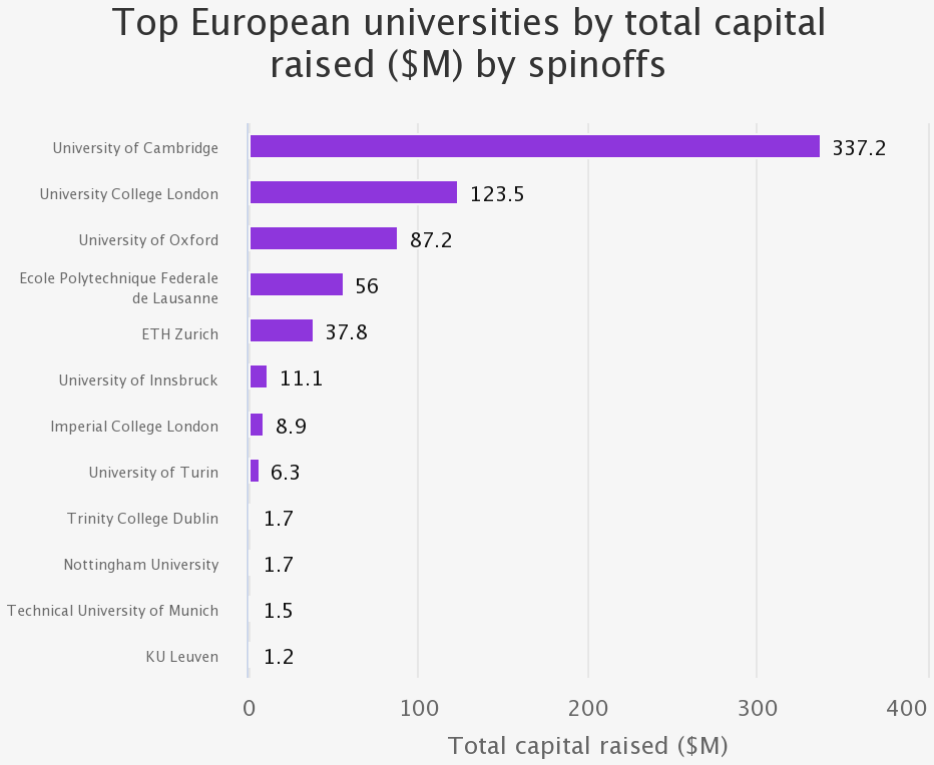
According to Global University Venturing, university spinouts globally saw 886 investments totaling $13B in 2019, and led to 67 exits worth a combined $20.8B.

In the US, there's a longer history of collaboration between universities and the startup ecosystem. According to an article in WSJ, while US research institutions began spinning out tech companies three decades ago, European universities have been slower to exploit commercialization. Silicon Valley was formed around the campus of Stanford University, and according to research by Ideas 2 Impact and Octopus Ventures, MIT has been the genesis for more than 26,000 companies. Today, those companies account for 3.3 million jobs and a combined annual revenue of $2 trillion.

Europe has recently started catching up in this department. Notably, Global University Venturing named ETH Zurich the world's most consistent spinout university for producing over 20 companies annually since 2007. However, their data, as referenced in State of European Tech 2019, also shows that spinout activity is minimal outside of Switzerland and the UK.

"Academia really needs to be involved in the startup innovation process. The problem is that universities don't have people who understand business."

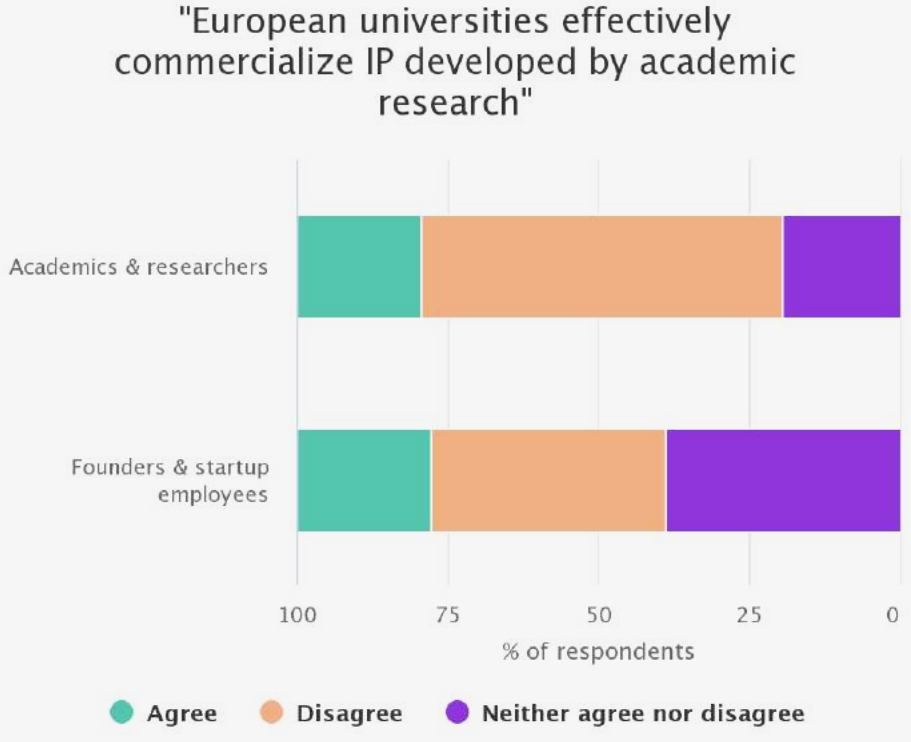
- Founder



Based on data from September 2018 to September 2019.
Data originally provided by Global University Venturing.

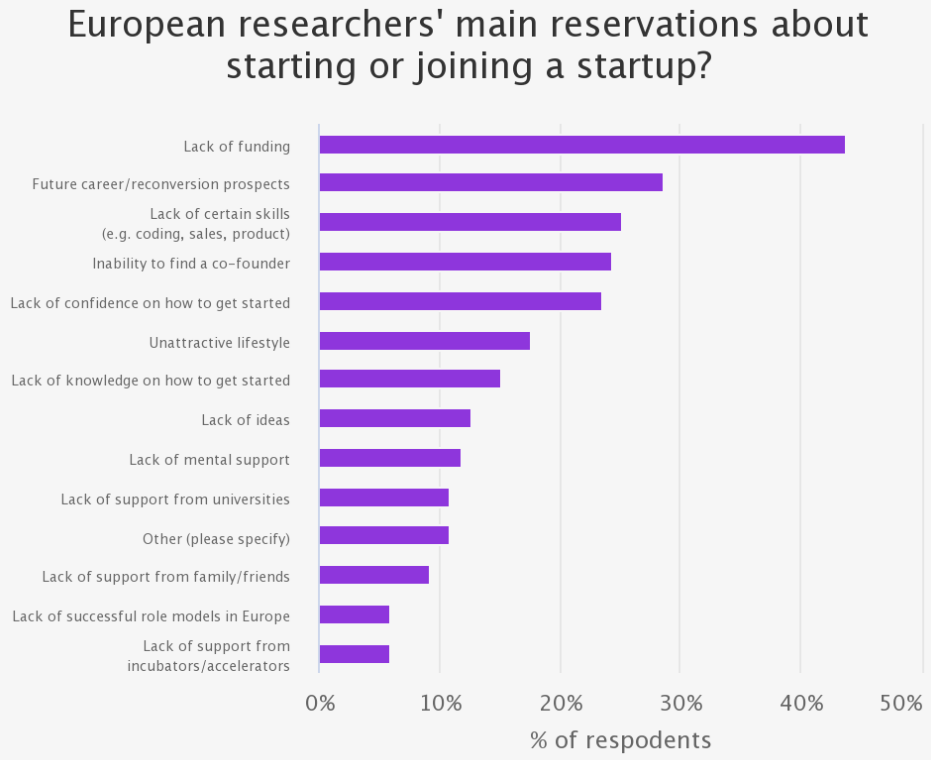
The State of European Tech

The shortcomings are well-recognized on both sides of the table. Across the board, respondents to the State of European Tech 2019 survey took a rather negative view of the commercialization efforts of European universities. Researchers themselves were actually more critical than founders and startup employees.



Including founder, startup employee, academic and researcher respondents only.

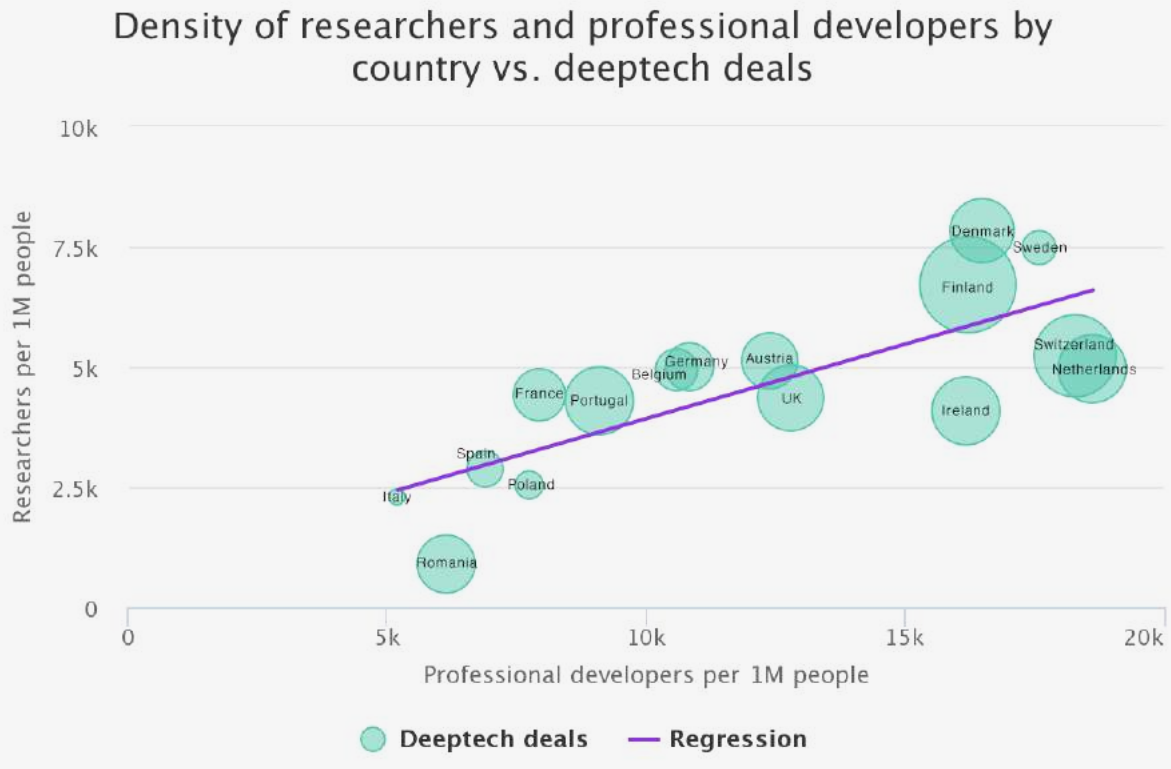
The State of European Tech Survey



The State of European Tech — Survey

However, when asked to elaborate on their reservations about founding or joining a company, European researchers overwhelmingly pointed to the lack of funding. This, once again, unmasks the shortcomings of our funding ecosystem in pulling out the brightest ideas from academic institutions.

This is a worrying fact. State of European Tech pointed to the importance of the talent pipeline that universities offer, establishing a correlation between the density of researchers and developers, and the volume of deeptech investment across European countries.



During the next decade, we need to find efficient models for spinning out companies from universities across the European continent. What's more, both sides of the table need to work exceptionally hard to bridge the gap for researchers to found and join startups.

"You will see even more close collaborations between startups and universities; in some cases, the distinctions may become harder to determine."

- Operator

GOVERNMENT - *REGULATION, INVESTMENTS IN R&D, FUNDING*

Governments enable much of our deepest innovation. They identify national and continental priorities, match them with capabilities and provide funding for projects that aim to solve our most pressing problems. Once those projects hit the market, it's essential for them to ensure that regulatory choices keep up with the pace of innovation.

"On the NASA Technology Readiness scale, governments are able to push R&D through levels 1-4. After that, you need a company."

- Investor

In the past, the US and China have been leading the way in aggressive investments into basic research and startup collaboration.

In Europe, there's still room for improvement. According to a report by BusinessEurope, one of the EU's most influential corporate lobbying groups, anything below the EU's proposed R&D spending target of 3% of GDP would not be enough to address the EU's innovation deficit and to compete with China.

"The UK, the EU and the EU nations individually massively underinvest in science compared to China, and actually still compared to the US. They're pretty much putting money into farmers, and not putting money into fundamental science and tech, and that needs to be sorted at the Brussels level."

- Founder

Now, pan-European policy seems to have come to the rescue. Namely, the EU is planning to address the innovation deficit through the European Investment Council; currently in its pilot phase. Once rolled out in full, the Council will look to invest €3.5 billion into startups working on revolutionary innovations. The European Commission's Director General for Research and Innovation, Jean-Eric Paquet, spoke about the initiative at Slush 2019. He specifically mentioned that the fund would seek to fill the void left by traditional VC firms who tend to avoid the costly and risky research needed to turn a scientific breakthrough into a viable product and thus help startups through "the famous innovation valley of death".

However, the role of government in the ecosystem should not just be expansionary. Revolutionary innovations have revolutionary implications for all of society. If those consequences aren't addressed, our technological utopia runs the risk of turning into a dystopia.

The next wave of revolutionary innovations will have an impact across factions of society, including elections, the military, national security, and healthcare. Additionally, new biotechnologies like CRISPR place us at the brink of human enhancement, calling to question the very nature of humanity.

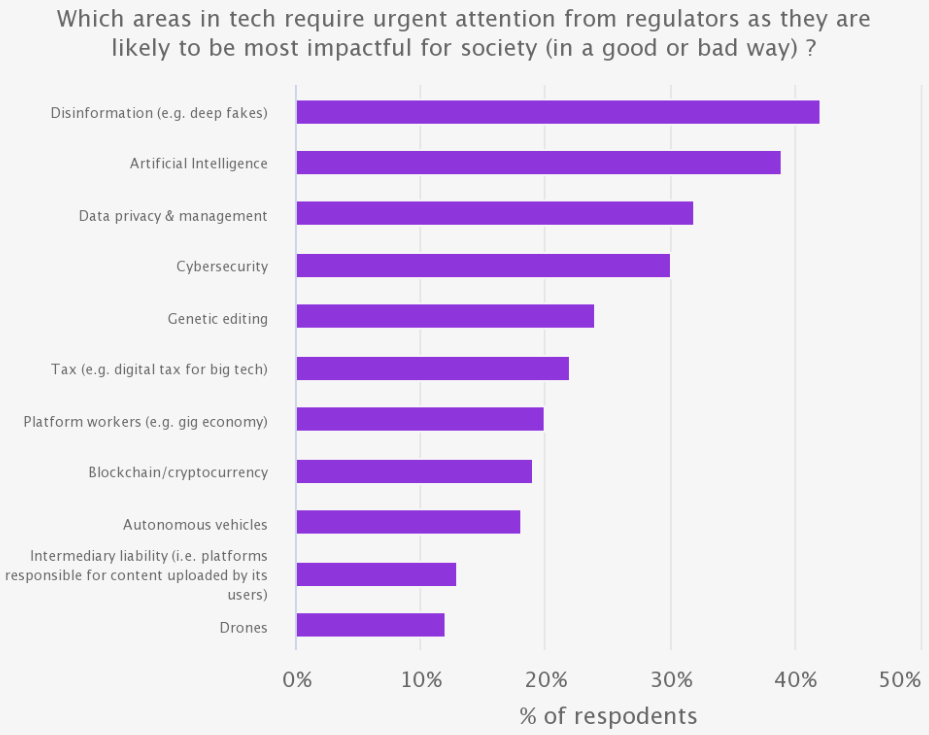
Regulating emerging technologies has always been challenging. However, the vector of innovation points towards complexity, rendering each consecutive generation of discoveries more ungraspable than the previous.

"Governments have a really hard time, because technology is moving so fast. So it's hard to even understand what's going on, and even more difficult to regulate it."

- Founder

What's more, the pace at which innovations take over markets has accelerated exponentially. According to an article in Visualcapitalist, Airlines took 68 years to reach 50 million users, the telephone took 50 years, computers took 14 years and the internet 7 years. Recently, WeChat reached this same milestone in just one year. As Deloitte put it, "the assumption that regulations can be crafted slowly and deliberately, and then remain in place, unchanged, for long periods of time, has been upended in today's environment."

To get the best of both worlds, governments should create regulation that encourages innovation while considering ethics. The respondents to the State of the European Tech survey in 2019 considered Disinformation, AI, and Data Privacy the areas that most urgently require increased regulatory attention.

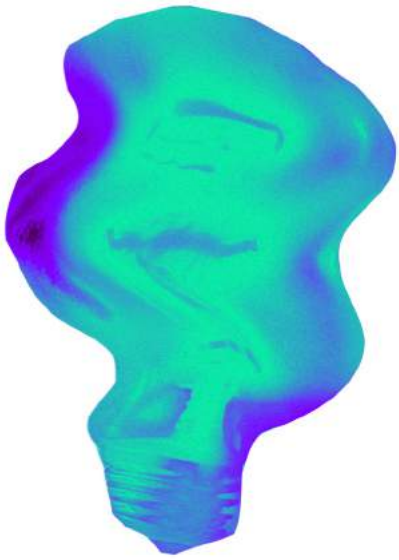


"I absolutely believe that private sector companies are going to have to be driving our deepest technological innovation. Governments can do a lot, but this should mostly be through good, transparent regulation and clear signals in the market."

- Investor

In many ways, startups are at the centre of the deeptech innovation ecosystem. They push other actors forward at a speed that might otherwise remain unachieved, and thus accelerate innovation. At the same time, startups alone are far from enough. Academia and governments have plenty to offer, from knowledge and funding to human resources and regulation.

Above all, one thing is clear. Through an interlinked, multidisciplinary and collaborative world, human progress can reach a previously unseen pace during the next decade.



APPENDIX

ABOUT SLUSH

Slush is a student-driven, not-for-profit movement on a mission to create and help founders to change the world. We are a community who want to radically change how entrepreneurship is perceived in Northern Europe and beyond.

In a regular year, Slush would culminate in a gathering of 25,000 founders, investors, media, and executives from 130+ countries, organized in Helsinki in November. However, due to the ongoing COVID-19 pandemic, we're hard at work helping the ecosystem in other ways this year.

This fall will be no less Slushy than any other. How? We'll reveal the biggest reason in August 2020. On top of that, we run an online media called Soaked by Slush, a newsletter with 70k+ subscribers, research pieces like this one, and much more.

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DATA & METHODOLOGY

EXPERT INTERVIEWS

We conducted 58 anonymous expert interviews and used them as the basis of our own analysis. Our sample was comprised of 28 founders, 20 investors, 8 operators and 2 “other” people from the ecosystem. 32 of the interviewees were based in the Nordics, 16 were from Europe and 10 from outside Europe. 34% of the interviewees were women.

STATE OF EUROPEAN TECH SURVEY

The State of European Tech survey was distributed during the fall of 2019. Please find a breakdown of the survey respondents in the State of European Tech 2019 report.

SLUSH DATA

COMPANY DATA

Slush collects company information from startups and investors when they apply for the event. In these papers, we used data associated with Slush 2019. The size of the datasets are as follows: 3,500 startups, 600 VC firms, 250 CVC firms, 500 Angels, 60 LPs, 100 M&A investors.

TICKET DATA

Slush collects data on all of its attendees when they purchase a ticket to Slush. Groups utilized in this study were startup ticket holders, investor ticket holders & angel investor ticket holders. A gender API was used to guess the ticket holders’ gender based on their first name.

COMPANY DATA

Slush collects data from meeting requests sent through the Slush Matchmaking Tool. In 2019, a total of 130,000 meeting requests were sent and 20,000 meetings held.

PURPOSE-DRIVEN COMPANIES

Purpose-driven companies were identified from the Slush startup data using our own taxonomy. We define these as companies that—in their application—report working towards at least one of the United Nations (UN) Sustainable Development Goals (SDGs), and mention a keyword related to that SDG in their product description. We probe the prior with the question: "Are you committed to making a positive social and environmental impact through your investments?" In other words, they are pursuing a certain SDG as a core aspect of their product.

DEEPTECH COMPANIES

To recognize deeptech companies from the Slush startup data, we used a combination of industry, technology, and keyword analysis, as well as manual scanning. Our aim was to find companies that leverage a novel, scalable, complex technology, or a significant innovation within an existing technology, as a core aspect of their offering. Additionally, this innovation needed to be the company's own, and sold primarily as a product, rather than a service.

DEALROOM DATA

Dealroom.co is the foremost data provider on start-up, early stage and growth company ecosystems in Europe and around the globe. Founded in Amsterdam in 2013, they now work with many of the world's most prominent investors, entrepreneurs and government organizations to provide transparency, analysis and insights on venture capital activity. Their offerings include data sets via SaaS and API as well as custom reports and bespoke ecosystem solutions.

UNICORN ANALYSIS

The list of unicorns used is based on Slush's internal analysis, up to and including January 2020. We define a unicorn as a company that has exited at a valuation of $1B+, or whose latest private valuation exceeds that. Further, we exclude holding companies and corporate subsidiaries. Dealroom was used as the primary source of valuation data, whereas public disclosures or credible estimates were used as the basis of revenue and profitability data.

SLUSH