

Balderton.
capital

The European Talent Landscape



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Our Approach

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The defining asset of every leading technology company is talent.

At Balderton, our job is to provide capital to support European technology companies to attract and retain world leading talent and get the best out of them. As a result, we're fortunate to have learnt a lot about what it takes to identify, attract and retain people from the teams we work with.

In this report, we've set out to identify where people working in European technology companies come from, what experience they have, and what they expect in their roles. We did this by profiling almost 15,000 employees in over 1,000 venture-backed companies in Europe, and by working closely with a select group of recently backed start-ups.

We have learnt that the talent market in Europe can vary massively. Pay for similar roles can range by four times from Lisbon to Geneva, and seed stage companies in London are generally able to hire twice as many people as their counterparts in Berlin. There are also many similarities across Europe's hubs, from the time it takes to hire, to the challenges facing HR.

We've also tracked how the talent pool has changed. Over half of the talent pool in European tech now have experience working in at least one major tech company or start-up, and smaller cities such as Amsterdam and Stockholm easily rival London and Paris when it comes to the density of engineers.

On top of that, we've worked with our own portfolio of companies to understand how European companies go about recruiting global talent, the challenges faced, and the time and cost of hiring at different seniority levels to provide guidance to new founders and experienced HRs alike.

While not exhaustive, this report is intended to provide more insight for companies from seed stage to those rapidly growing to help them to hire.

We would love to get your feedback on further areas to look into at [**james@balderton.com**](mailto:james@balderton.com)

Key Findings

1. London, Paris & Berlin dominate the European start-up landscape today
2. Hiring is getting harder, with technical and product hires the toughest to make
3. Technical talent is highly mobile across Europe's hubs, especially engineering
4. London has a particularly mobile workforce, with 40%+ of founders coming from or spending considerable time abroad
5. Almost 50% of employees previously worked in a start-up or large tech company, rather than traditional professions
6. London is the most popular destination for developers looking to work abroad
7. Pay for engineering roles can vary by almost 4x across European hubs
8. Start-ups can expect to scale the number of people by 12x between seed and growth rounds
9. It takes an average of 20 weeks and over \$5K to hire senior talent, longer with visas
10. A lack of specialist skills and the time to hire are the biggest challenges when making new hires

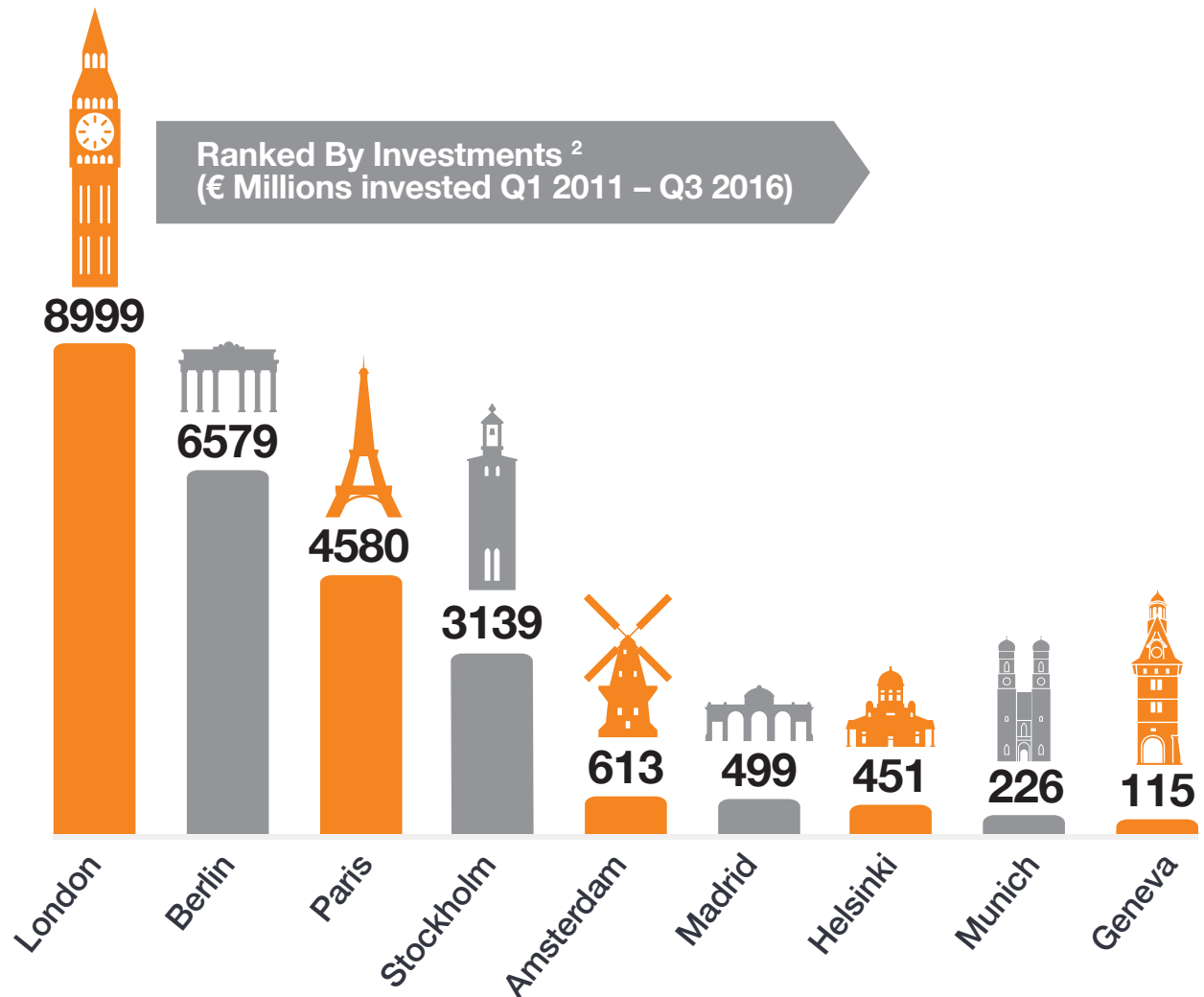
The European Landscape

London, Berlin and Paris dominate the tech landscape

Ranked By Number Of
Startups ¹ (2016)

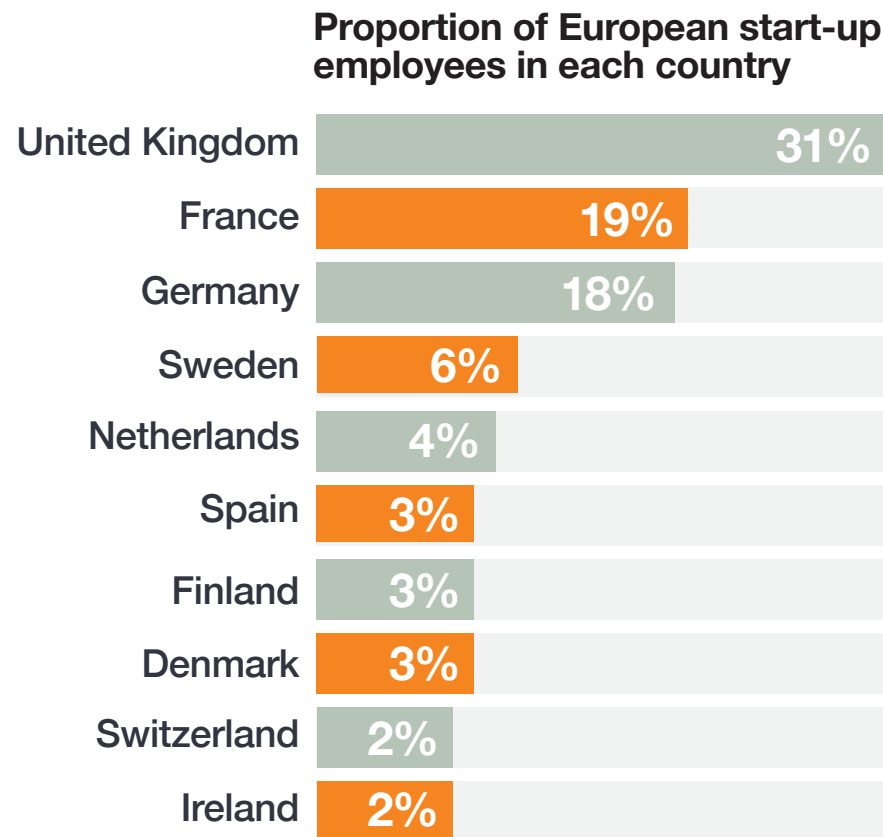
1. London
2. Berlin
3. Paris
4. Amsterdam
5. Barcelona
6. Madrid
7. Stockholm
8. Dublin
9. Copenhagen
10. Milan
11. Helsinki
12. Munich
13. Lisbon
14. Warsaw
15. Zurich

Ranked By Investments ²
(€ Millions invested Q1 2011 – Q3 2016)



1. SOURCE: EU-STARTUPS.COM. CALCULATIONS BASED ON THE NUMBER OF STARTUPS THAT ARE REGISTERED FOR EACH CITY ON CRUNCHBASE AND ANGEL LIST.
2. SOURCE: DEALROOM.CO

And the **UK, France** and **Germany** are home to almost 2/3 of all employees



Talent is truly mobile with over 40% of employees working outside their home country



Citizens of the country in which your company is headquartered



Citizens of another EU country (including UK)

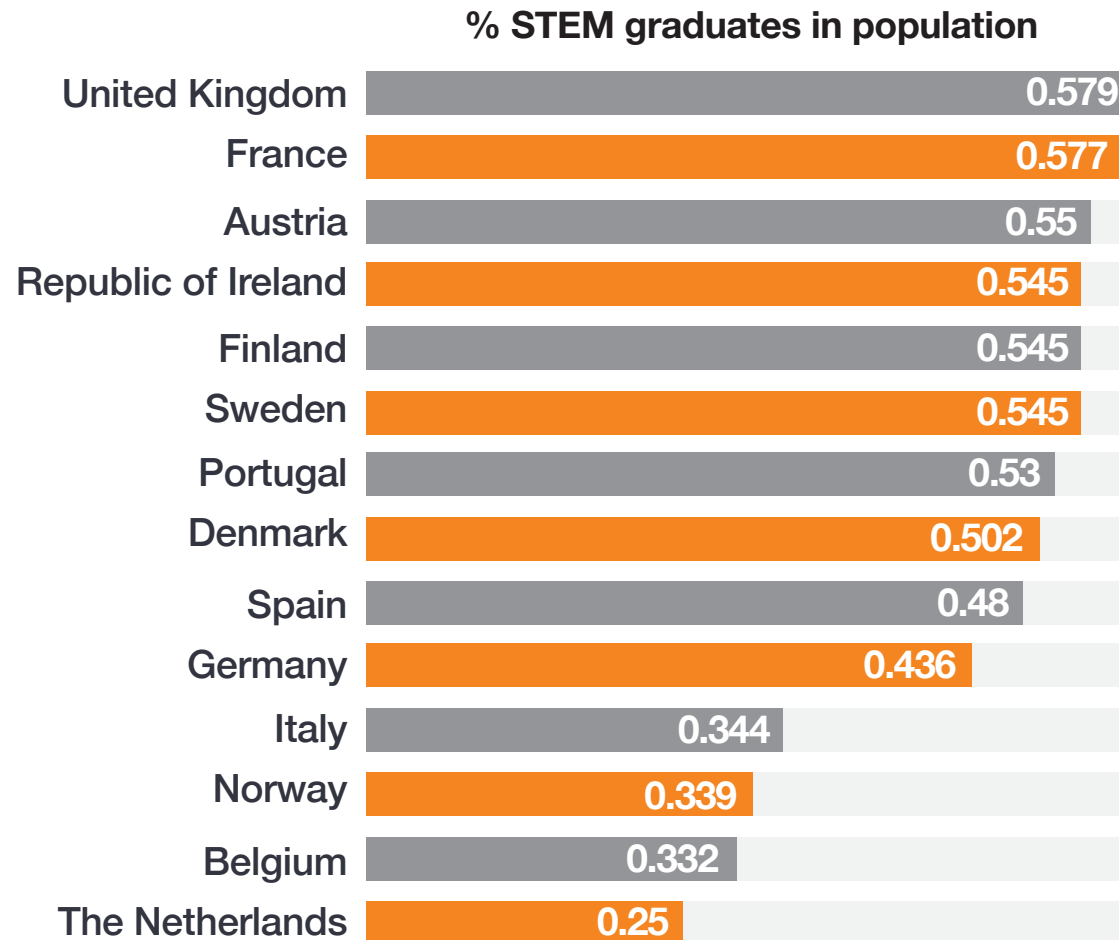


Non-EU citizens

85% sponsor international visas when hiring employees from outside their region

Q: APPROXIMATELY WHAT PERCENTAGE OF YOUR EMPLOYEES ARE CITIZENS OF THE COUNTRY IN WHICH YOUR COMPANY IS HEADQUARTERED?
SOURCE: BALDERTON TALENT SURVEY

Number of STEM graduates is closely correlated with the strength of tech ecosystems



REPRESENTS % OF INDIVIDUALS AGED 20 TO 29 YEARS OLD THAT HOLD A STEM (SCIENCE, TECHNOLOGY OR MATH) DEGREE, OUT OF ALL INDIVIDUALS AGED 20 TO 29 YEARS OLD IN THAT COUNTRY.
SOURCE: EUROSTAT

London, Paris and Berlin are home to as many developers as Silicon Valley

Developers registered in each hub

LONDON
300,345

PARIS
134,322

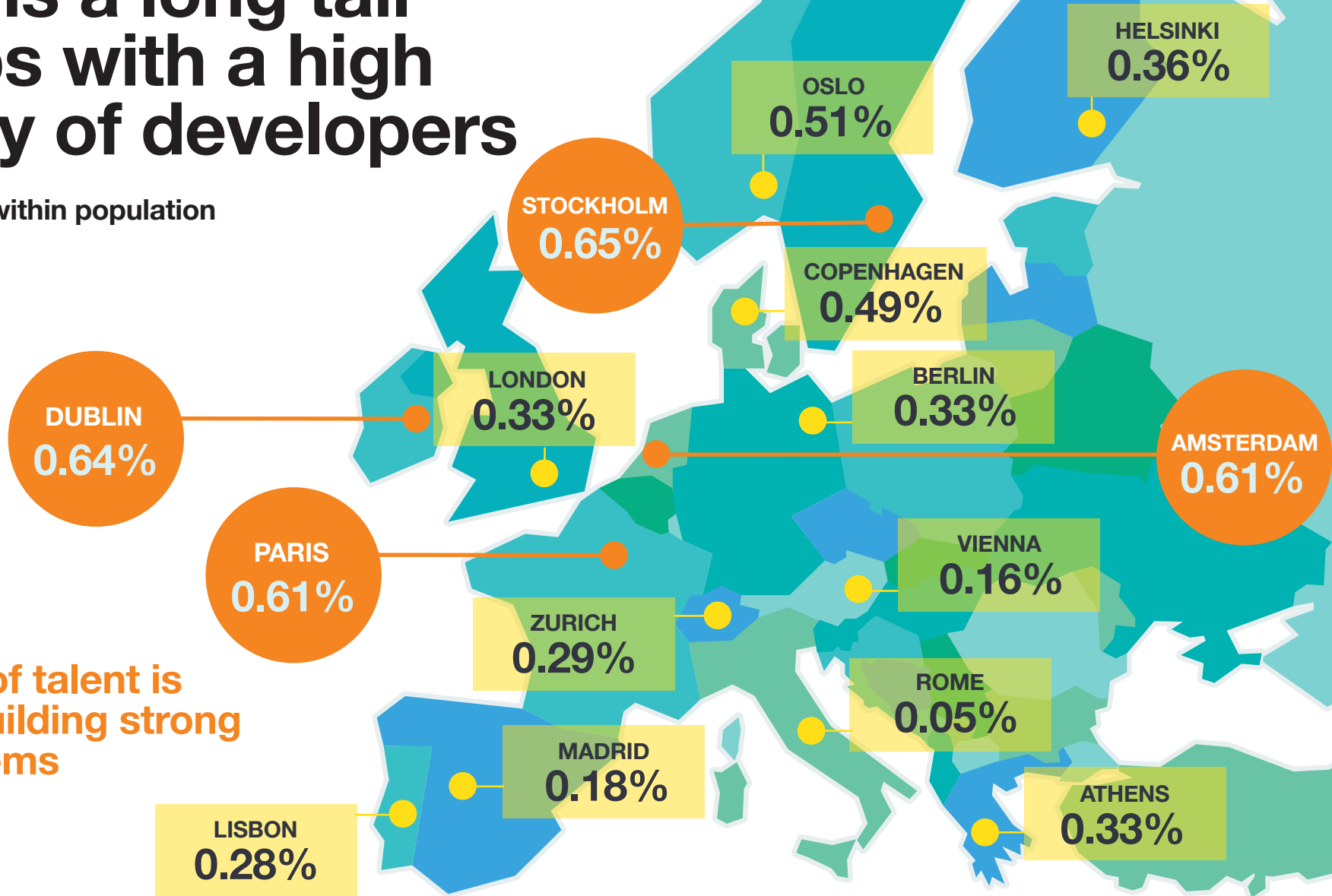
BERLIN
81,860

London, Paris, Berlin **515k**

Silicon Valley **564k**

There is a long tail of hubs with a high density of developers

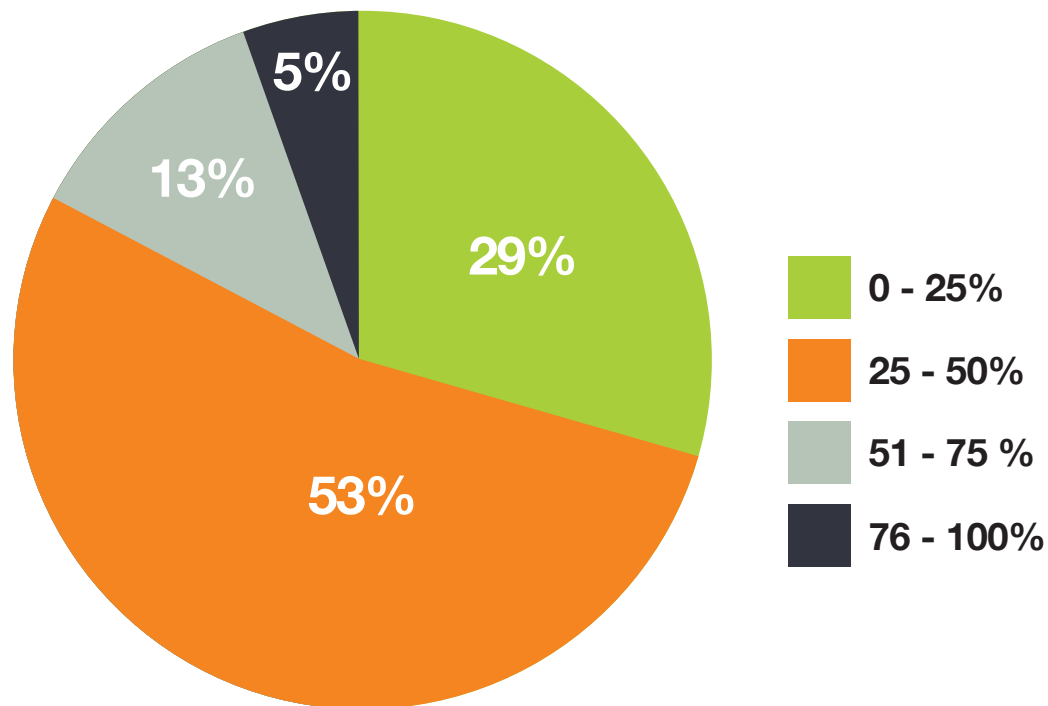
% Developers within population



Density of talent is key to building strong ecosystems

Tech start-ups remain male dominated

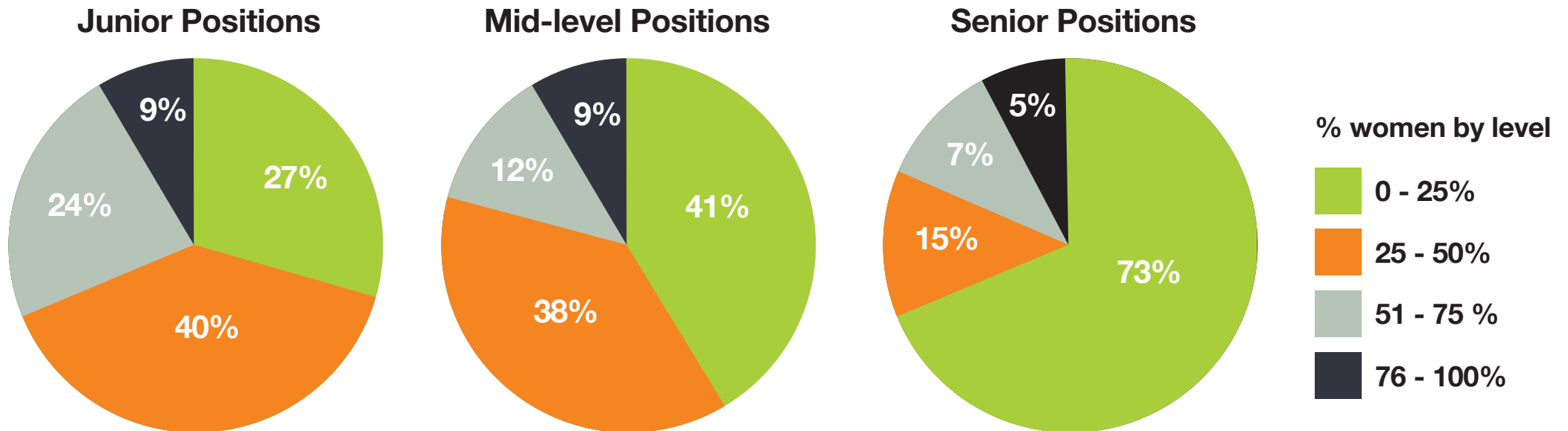
% Start-ups by share of female employees



In over 4/5 (82%) of European tech startups, women are in the minority

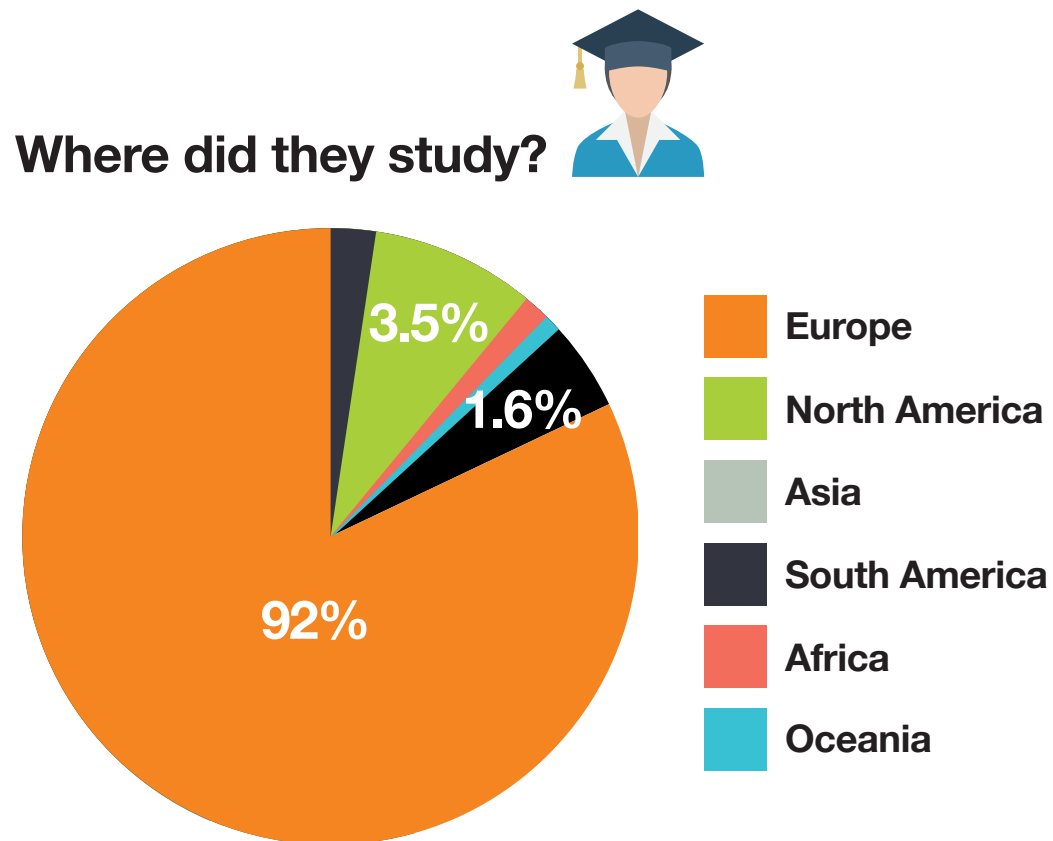
Q: WHAT PERCENTAGE OF YOUR EMPLOYEES ARE FEMALE?
SOURCE: BALDERTON TALENT SURVEY

Women are least well represented at senior levels

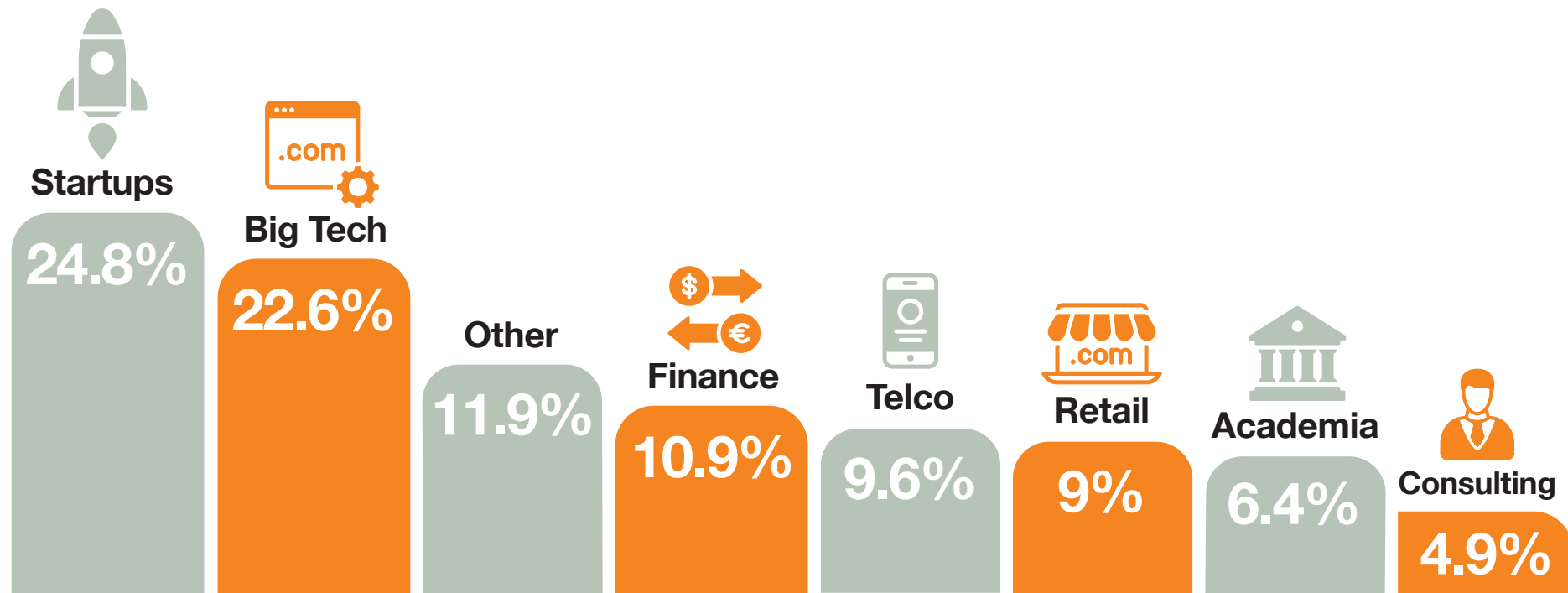


Q: WHAT PERCENTAGE OF YOUR JUNIOR/MID-LEVEL/SENIOR EMPLOYEES ARE FEMALE?
SOURCE: BALDERTON TALENT SURVEY

Employees in start-ups in Europe are overwhelmingly **European**, and studied in a European university









Almost half of all employees have already worked in a start-up or tech company



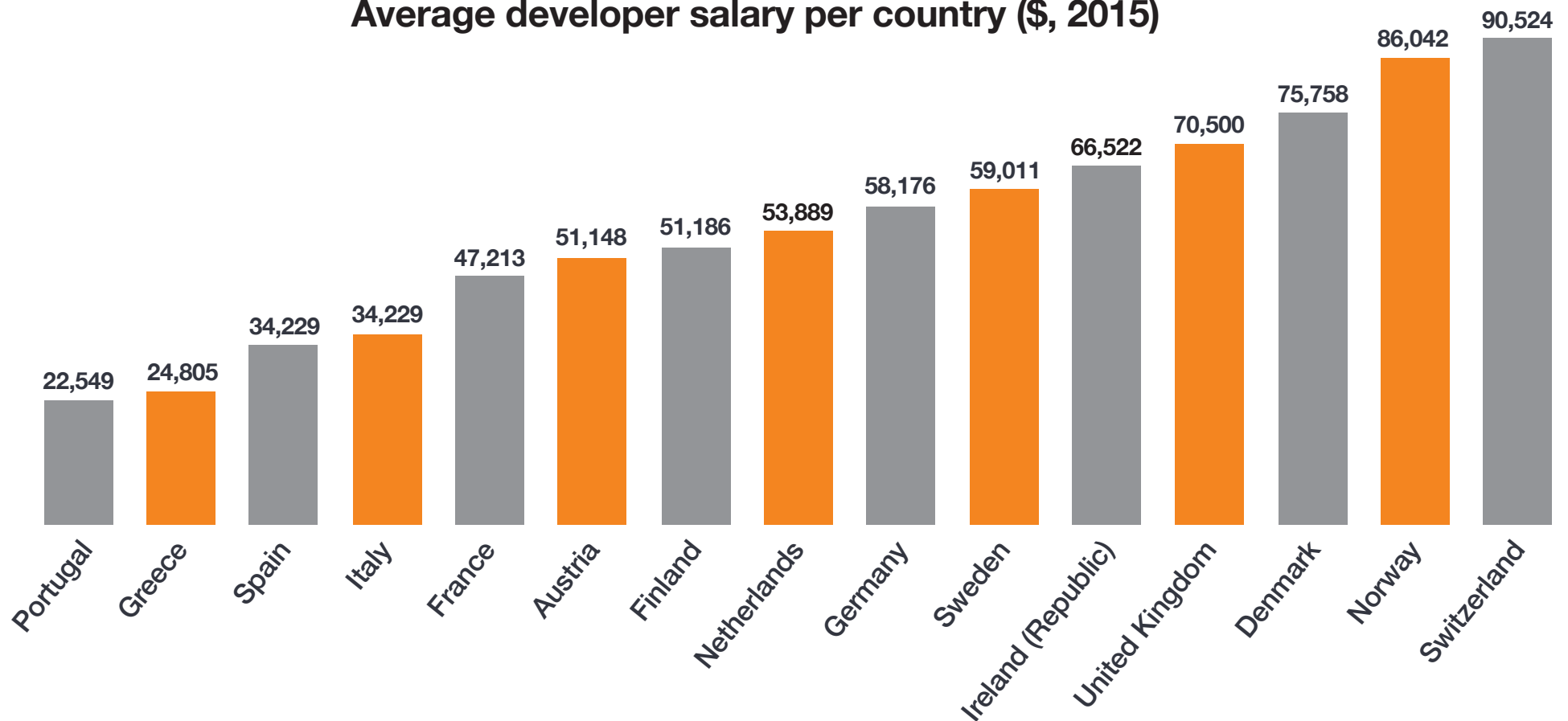
Where did people work previously?

The Top 20 companies that employees in European start-ups previously worked at

1.  IBM
2. **NOKIA**
3.  Microsoft
4. **accenture**
5. **Google**
6.  ROCKETINTERNET
7.  orange
8. **ERICSSON** 
9.  pwc
10. McKinsey&Company
11.  vodafone
12. **PHILIPS**
13. **Deloitte.**
14. **ORACLE**
15. Deutsche Bank 
16. **Goldman Sachs**
17. **ebay**
18.  hp
19. **SIEMENS**
20.  SAP

Considerable variation in developer pay across Europe by country

Average developer salary per country (\$, 2015)



Europe's Tech Hubs

United Kingdom

Where did start-up employees study and work before their current role?



Universities

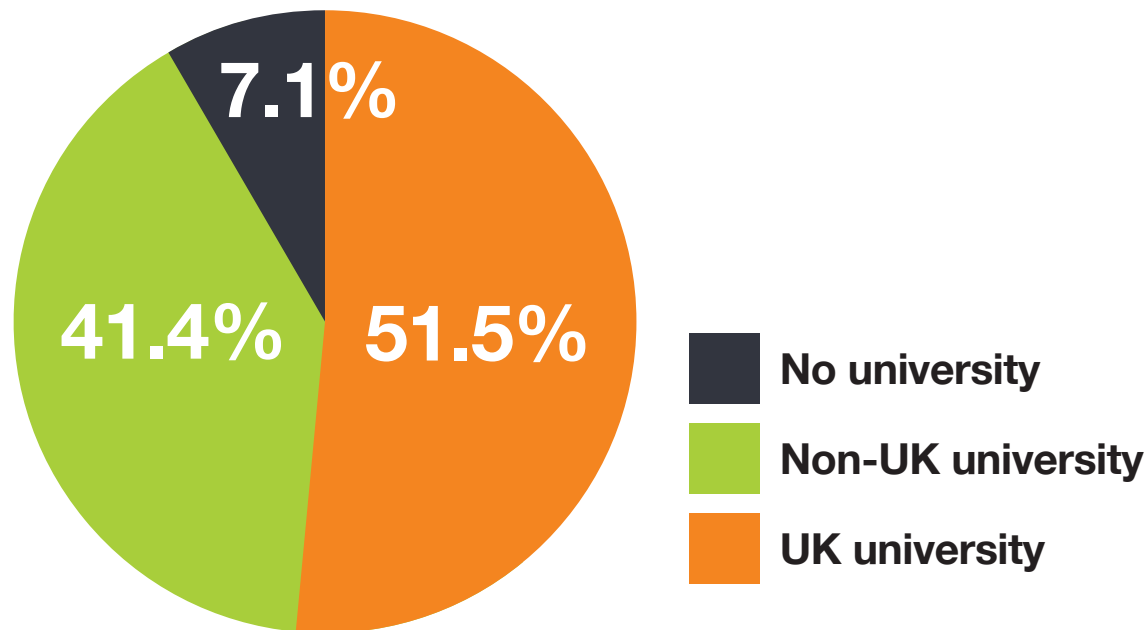
1. University of Cambridge
2. University of Oxford
3. Imperial College London
4. The University of Edinburgh
5. The University of Manchester

Companies

1. IBM
2. Hewlett-Packard
3. Microsoft
4. Google
5. Yahoo

Over 40% of founders of UK start-ups in 2015 did not study in the UK

Where founders of venture-backed companies studied (%)



Top Universities for Founders in the UK who study abroad

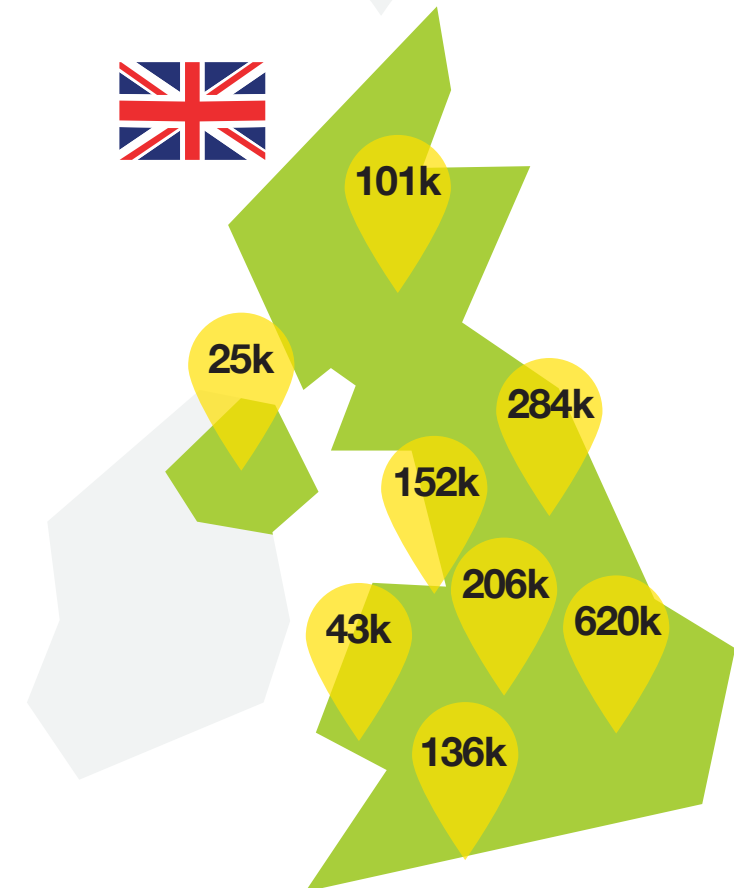
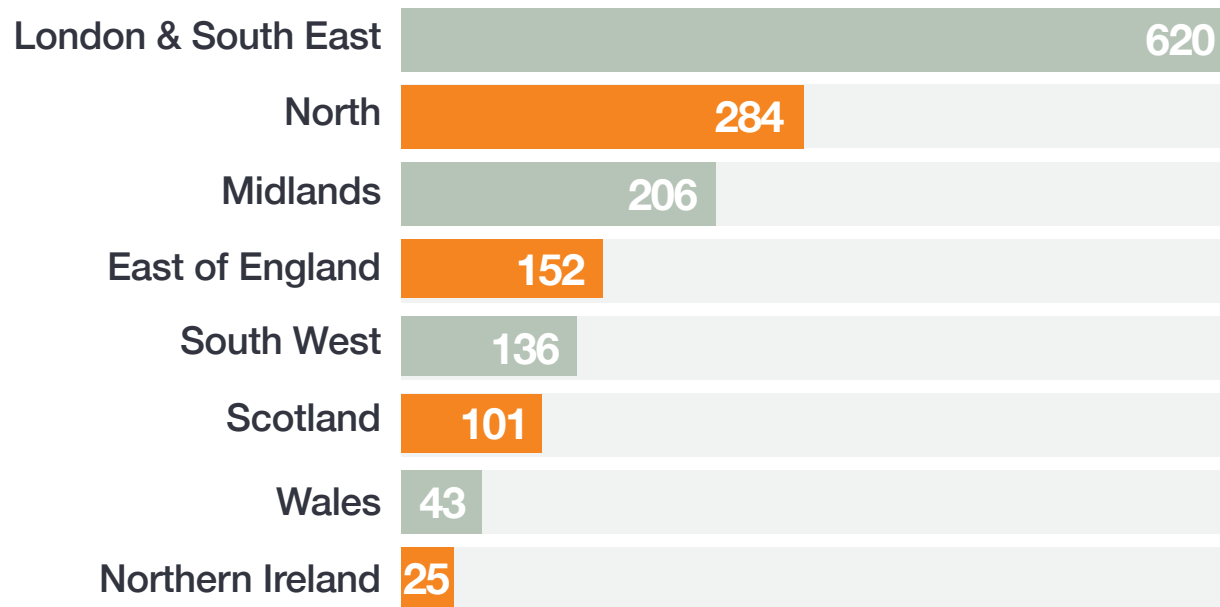
Universities

1. INSEAD
2. Harvard Business School
3. HEC Paris
4. University of Pennsylvania
5. Wharton Business School

UK tech startup jobs extend far beyond London

1.56m
tech jobs, of
which 1.27m are
outside London

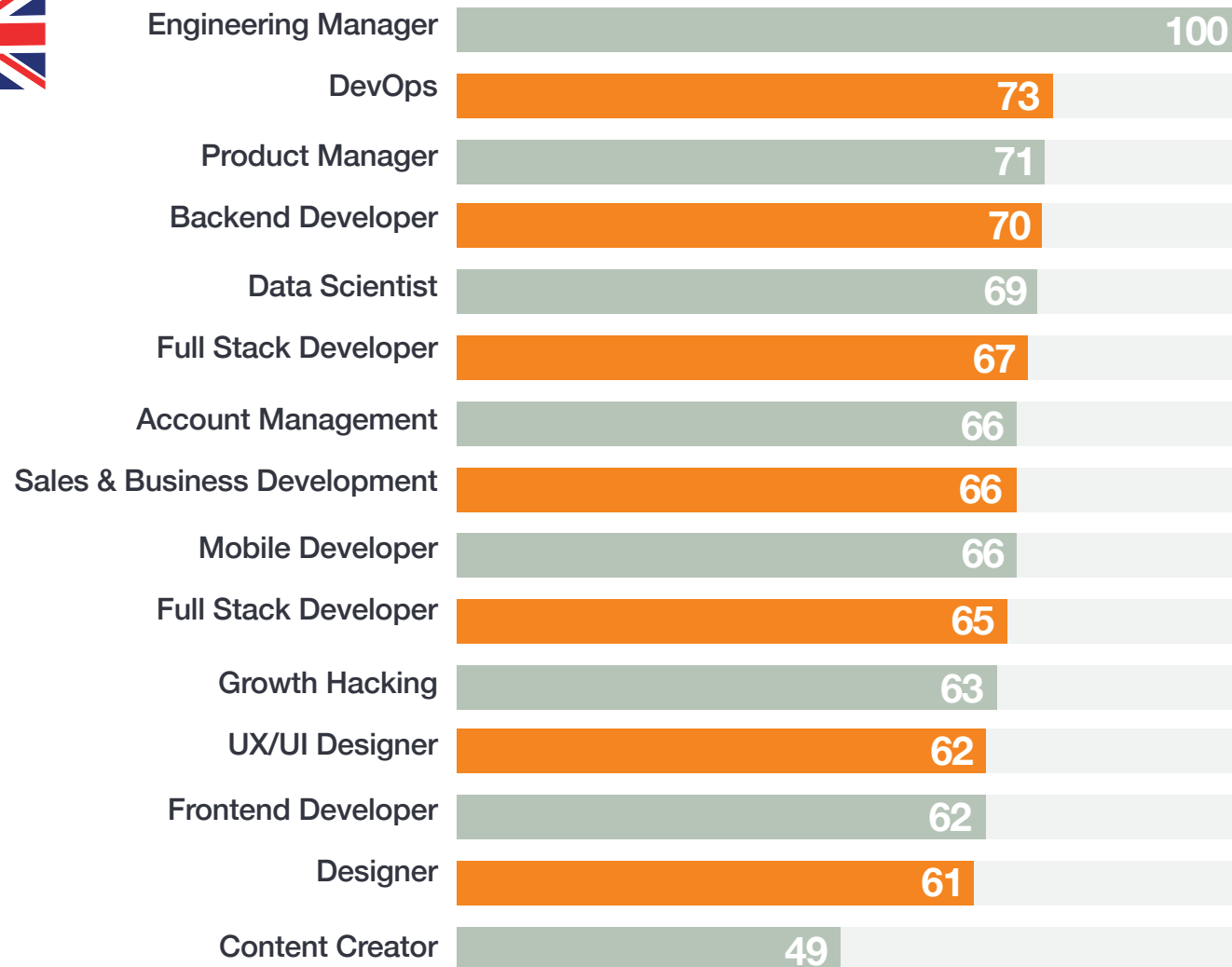
Number of tech jobs ('000s)



Pay: United Kingdom



Average salary in \$000's



SOURCE: ANGELIST, BALDERTON SURVEY

France

Where did start-up employees study and work before their current role?



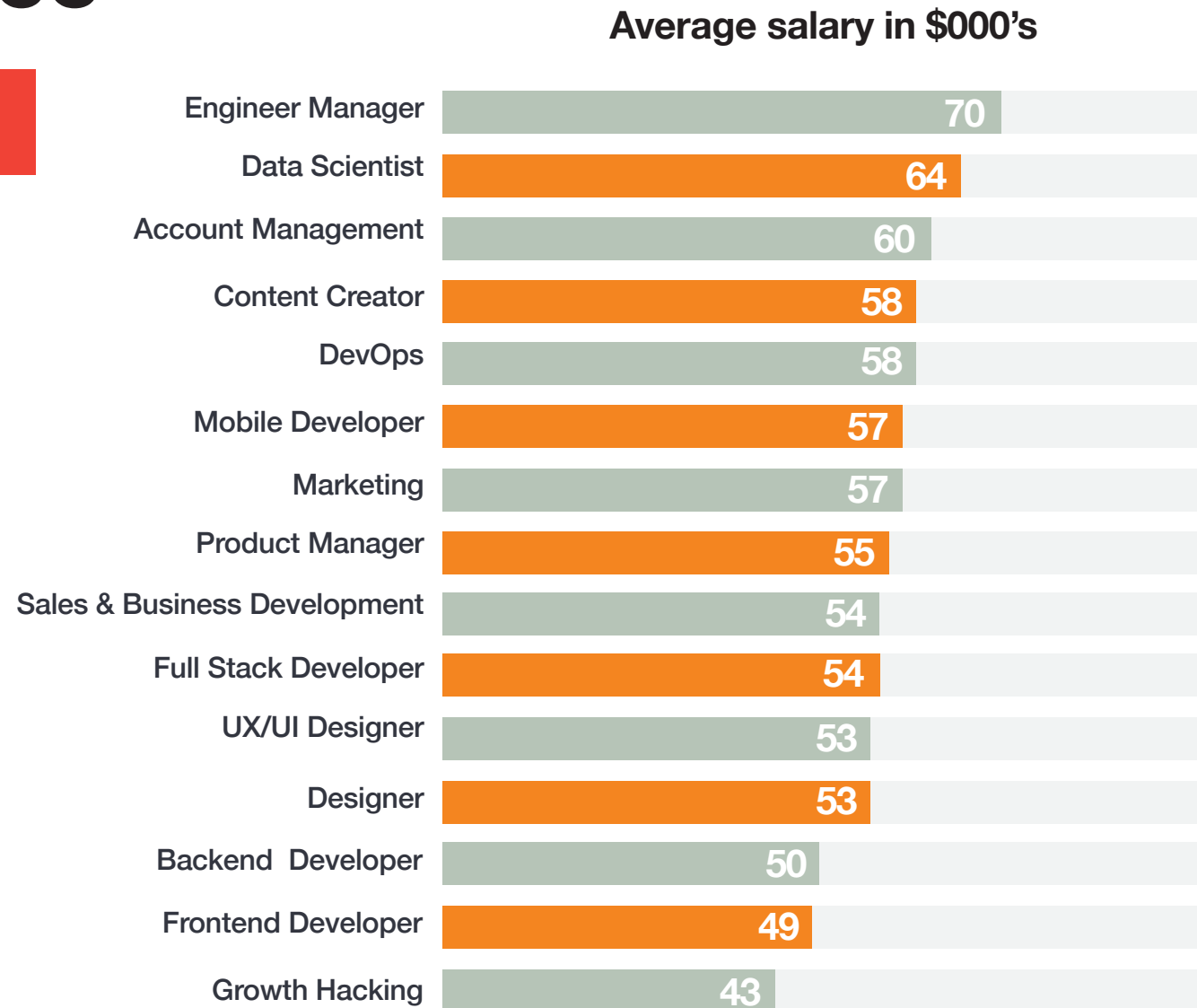
Universities

1. HEC Paris
2. Université Paris Dauphine
3. University of Paris: Panthéon-Sorbonne
4. Telecom ParisTech
5. EPITECH - Graduate School of Digital Innovation

Companies

1. Orange
2. Alcatel-Lucent
3. Google
4. Motorola
5. Microsoft

Pay: France



Germany

Where did start-up employees study and work before their current role?



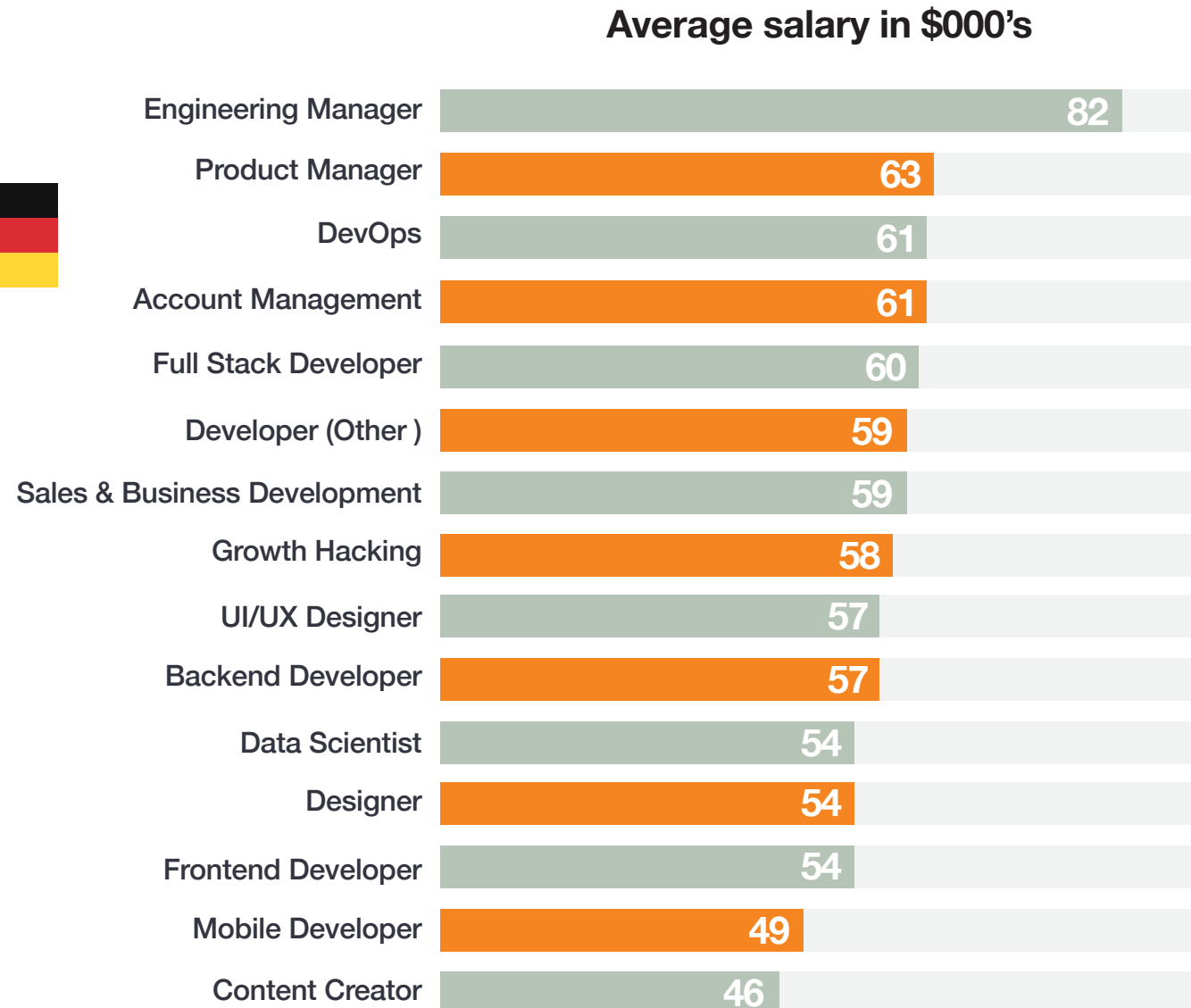
Universities

1. Humboldt University of Berlin
2. Freie University Berlin
3. Technical University Munich
4. Technische University Berlin
5. Ludwig-Maximilians University München

Companies

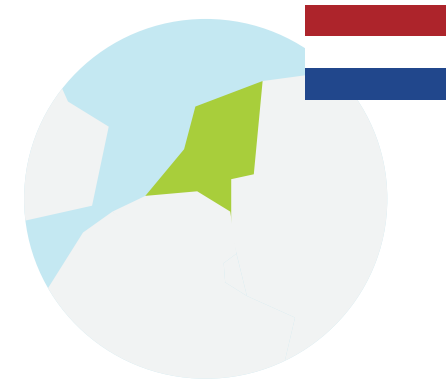
1. Rocket Internet SE
2. Zalando SE
3. Groupon
4. McKinsey & Co
5. Google

Pay: Germany



Netherlands

Where did start-up employees study and work before their current role?



Universities

1. University of Amsterdam
2. VU University Amsterdam
3. University of Groningen
4. Delft University of Technology
5. Amsterdam University of Applied Sciences

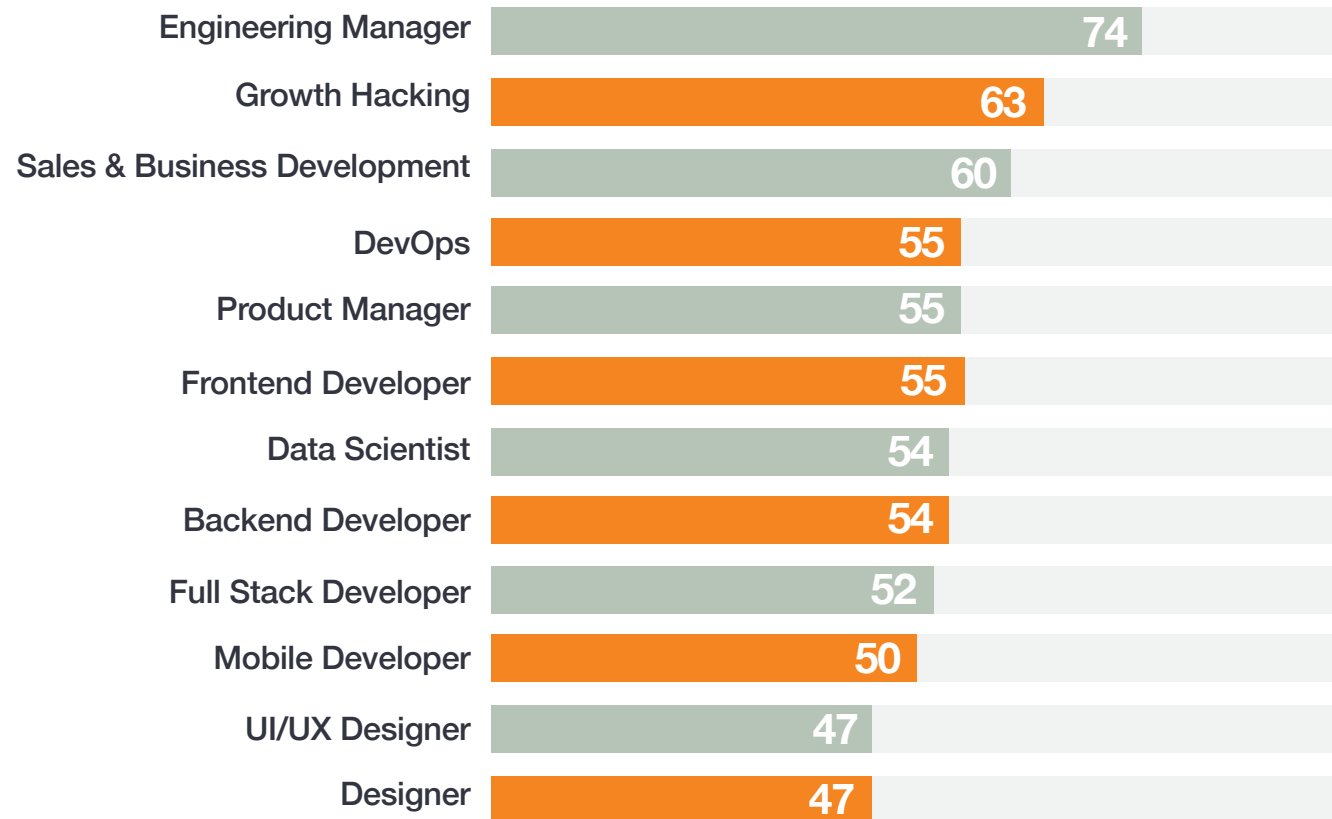
Companies

1. Microsoft
2. Philips
3. GE Healthcare
4. Hewlett-Packard
5. PayPal

Pay: Netherlands



Average salary in \$000's



Sweden

Where did start-up employees study and work before their current role?



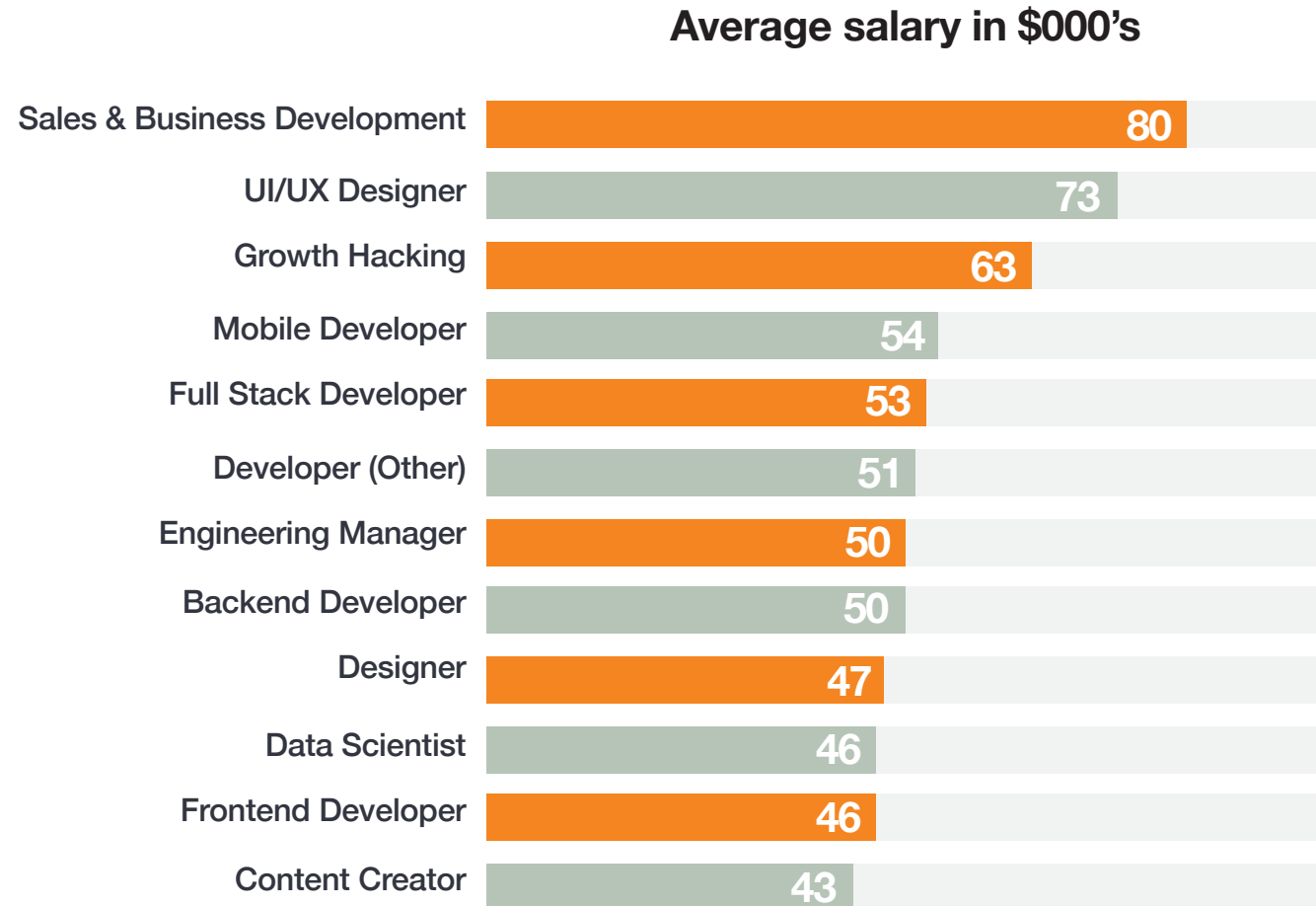
Universities

1. Stockholm University
2. KTH Royal Institute of Technology
3. Uppsala University
4. Lund University
5. Stockholm School of Economics

Companies

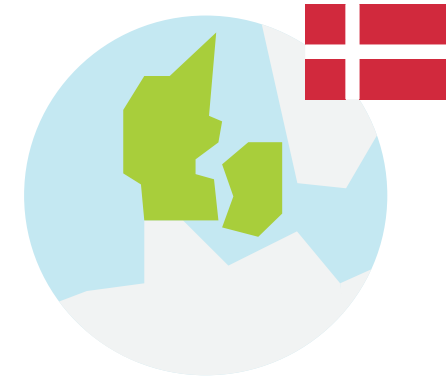
1. Ericsson
2. Spotify
3. Sony Mobile Communications
4. Nordnet Bank AB
5. Microsoft

Pay: Sweden



Denmark

Where did start-up employees study and work before their current role?



Universities

1. Copenhagen Business School
2. Aarhus University
3. Kaunas University of Technology
4. Vilnius Gediminas Technical University
5. Aalborg University

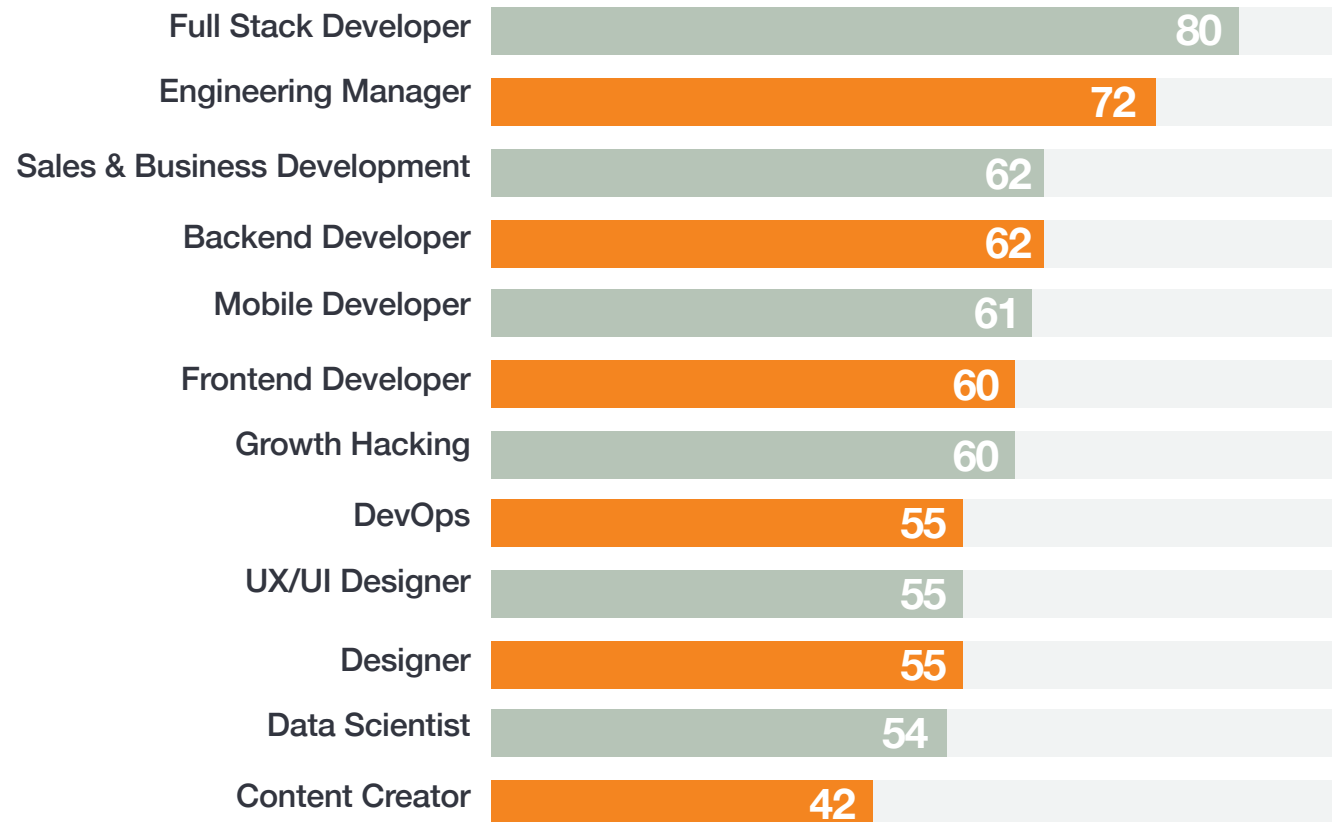
Companies

1. Microsoft
2. Barclays
3. Google
4. TWO NIL
5. Nokia

Pay: Denmark



Average salary in \$000's



Spain

Where did start-up employees study and work before their current role?



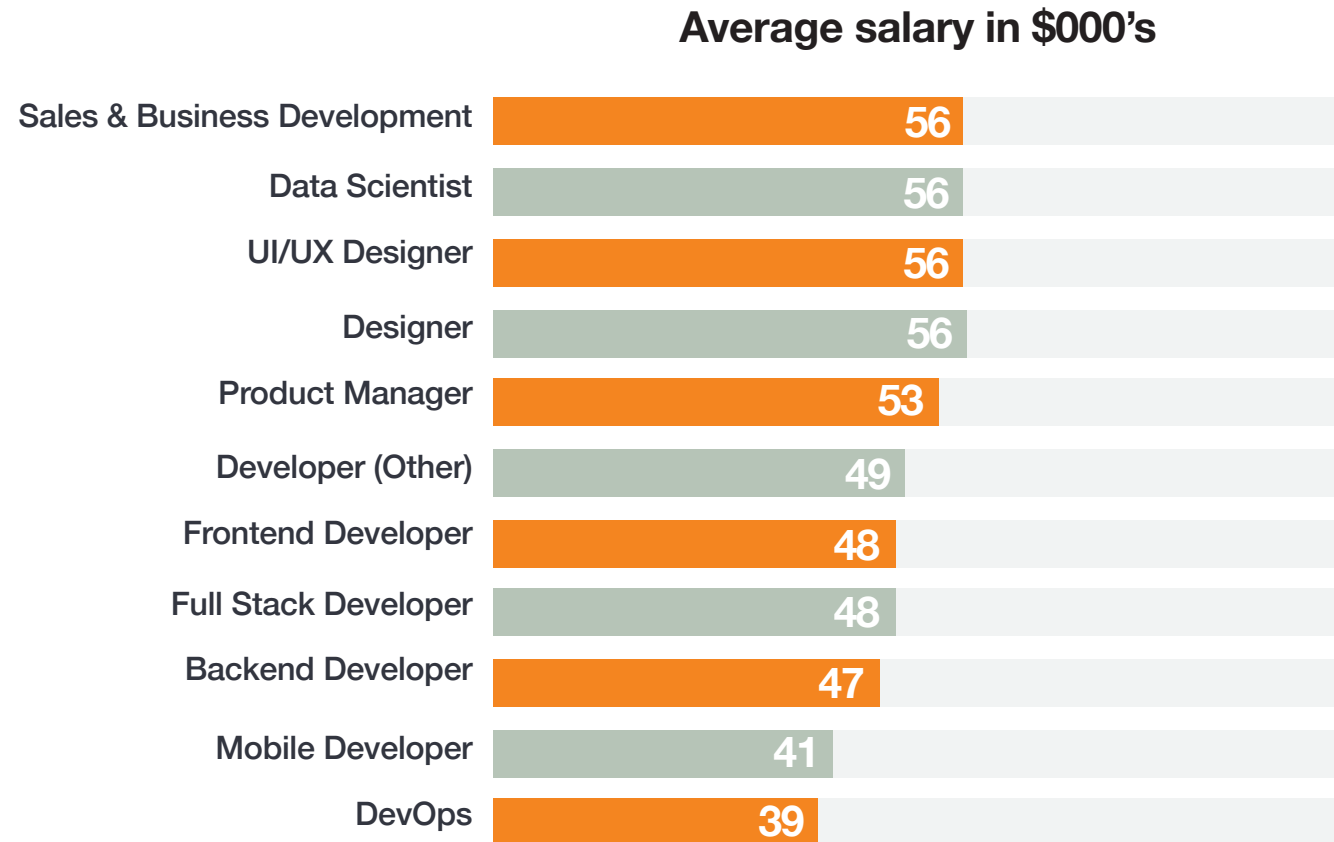
Universities

1. Universitat Politècnica de Catalunya
2. Universitat Autònoma de Barcelona
3. Universitat de Barcelona
4. Universitat Pompeu Fabra
5. ESADE Business & Law School

Companies

1. Softonic
2. Telefonica
3. Oesia
4. PricewaterhouseCoopers
5. Siemens

Pay: Spain



Ireland

Where did start-up employees study and work before their current role?



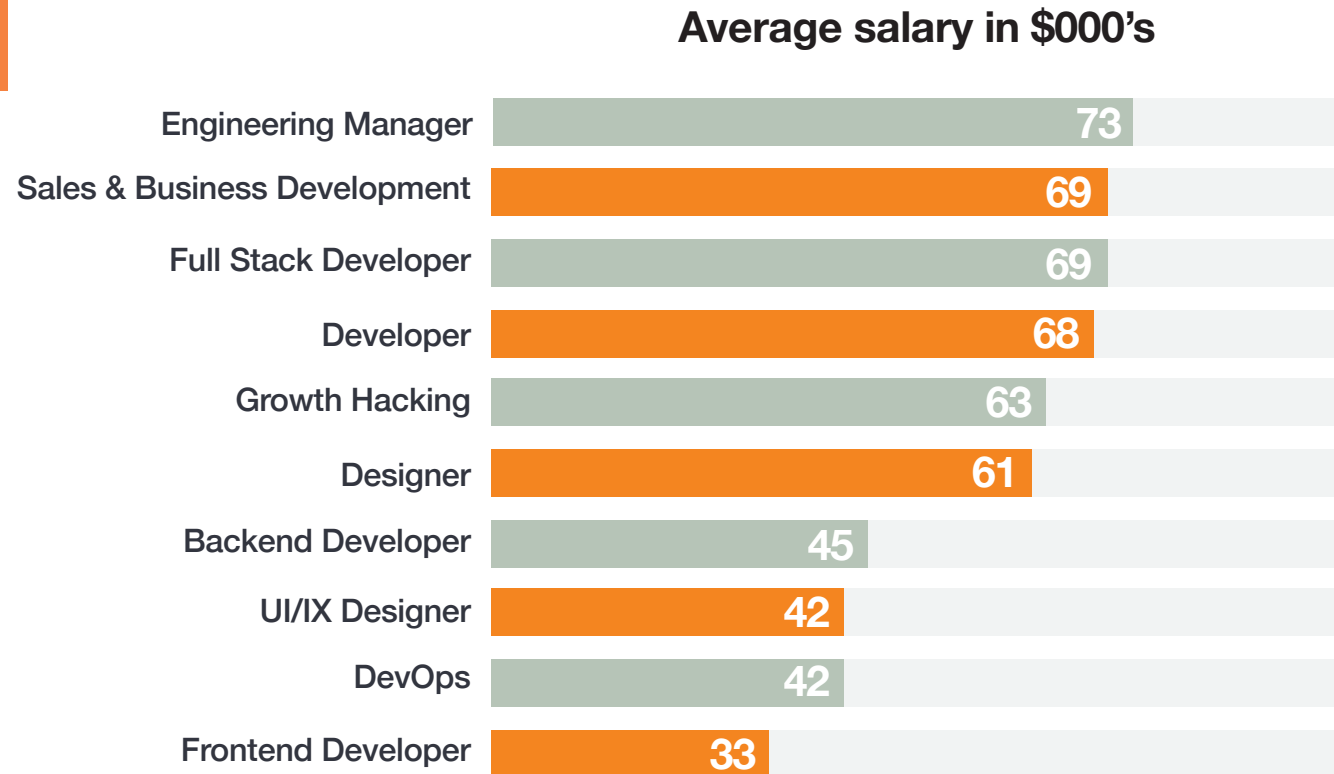
Universities

1. Dublin City University
2. University College Dublin
3. Dublin Institute of Technology
4. Trinity College Dublin
5. Dublin Business School

Companies

1. Vodafone
2. Ericsson
3. Citi
4. Olympus Biotech International
5. Google

Pay: Ireland



Recruiting Top Talent

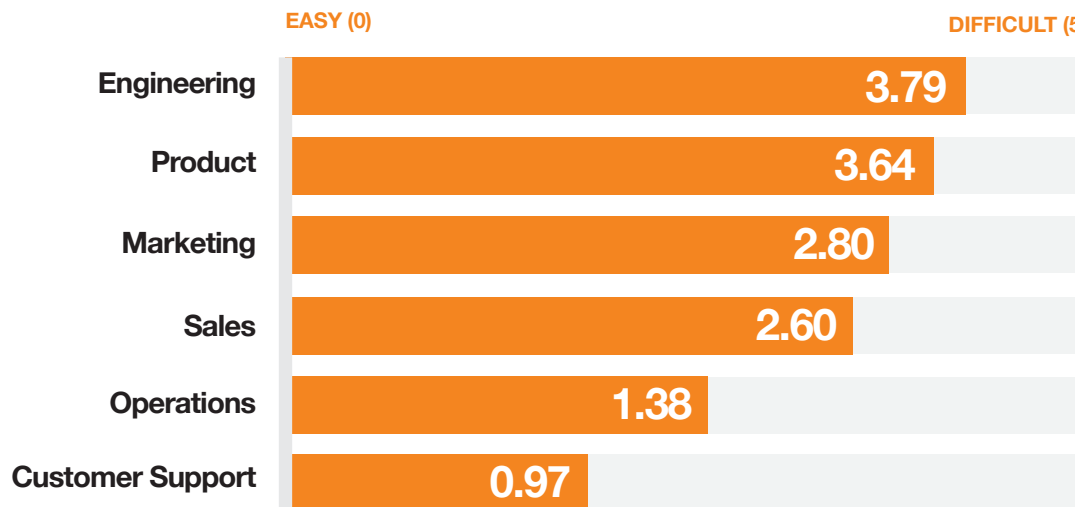
Competition for great hires continue to be fierce

To what extent do you agree or disagree that competition for talent has increased in the last year?

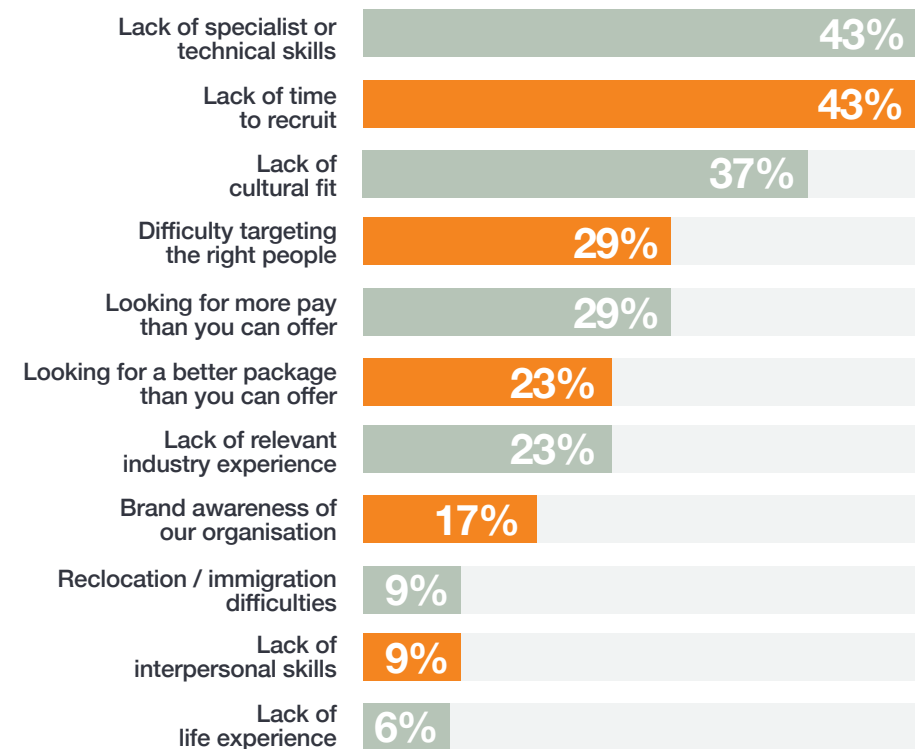


Product and engineering positions are by some margin the most difficult to fill

How difficult are each of these positions to fill?



What are your primary recruitment challenges?



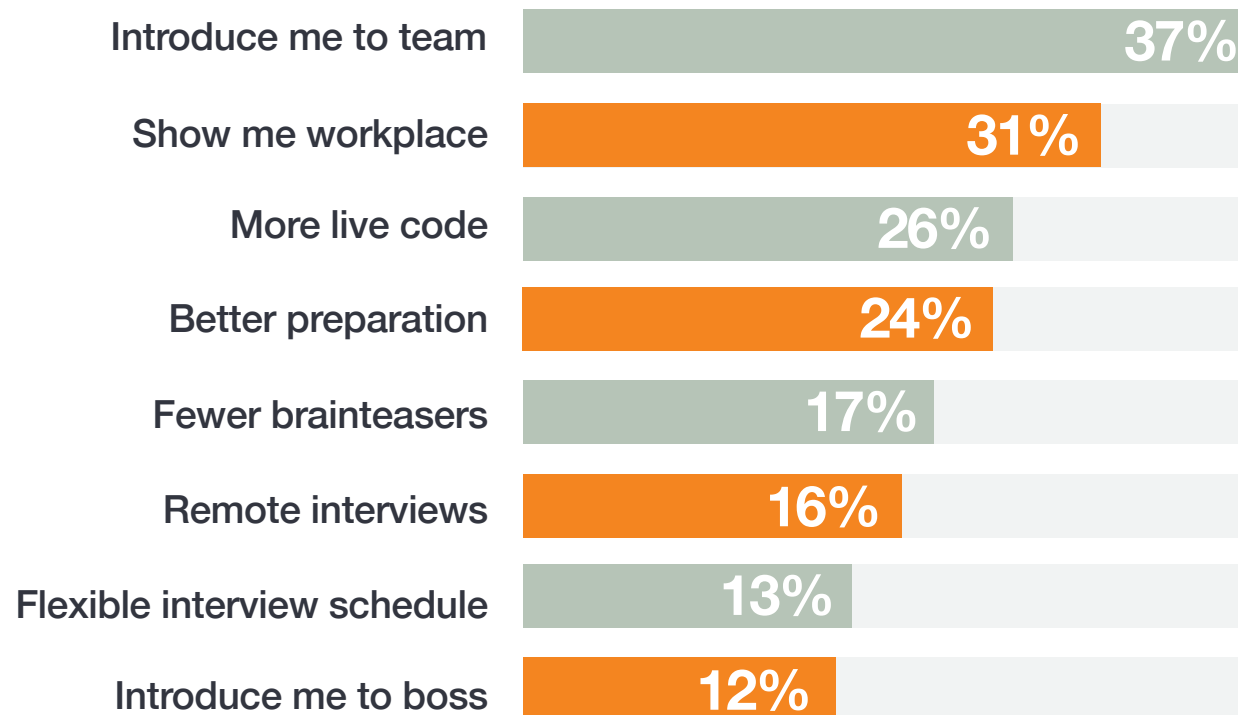
Q: GENERALLY SPEAKING, HOW DIFFICULT OR EASY DO YOU FIND IT TO RECRUIT EACH OF THE FOLLOWING FUNCTIONS?

Q: WHICH OF THE FOLLOWING, IF ANY, ARE THE PRIMARY CHALLENGES YOU FACE WHEN RECRUITING TALENT?

SOURCE: BALDERTON TALENT SURVEY: N=41 INTERVIEWS

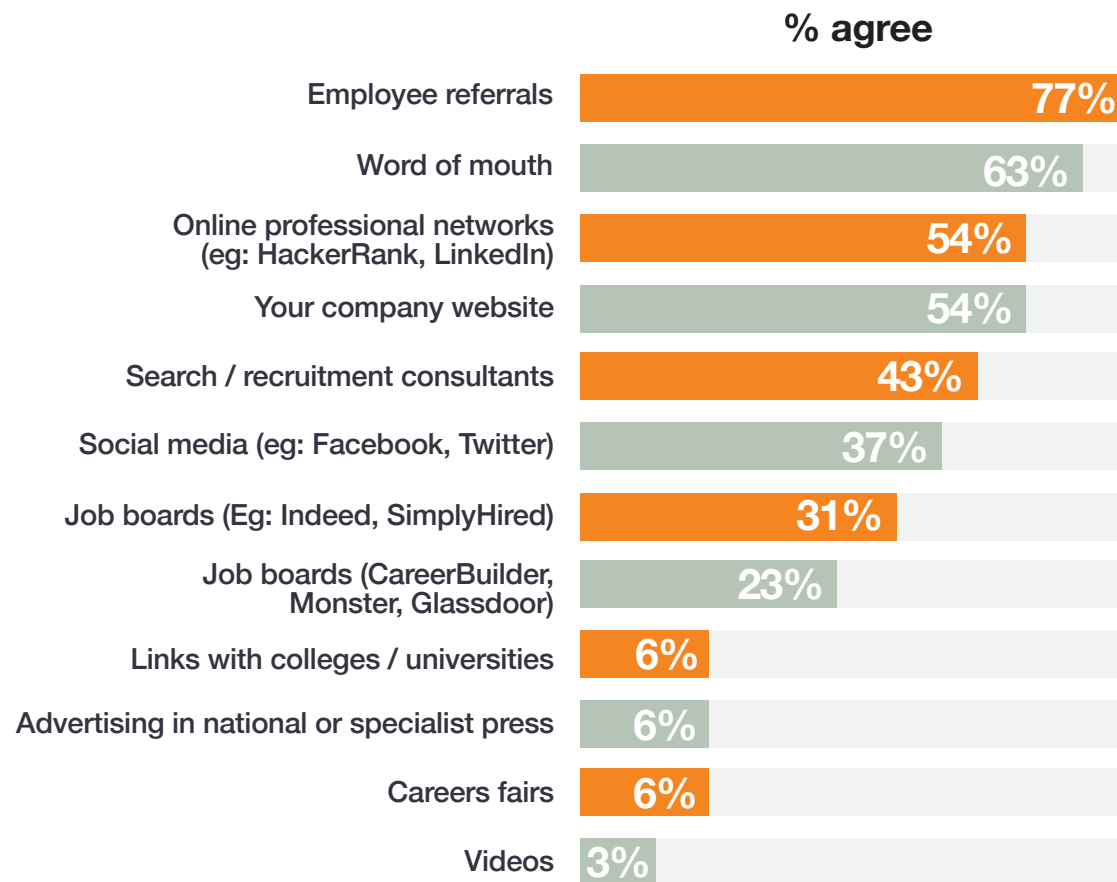
Access to team and workplace are key to recruitment

How can companies improve the recruitment experience?



SOURCE: STACK OVERFLOW DEVELOPER SURVEY 2015 (N=6,559)

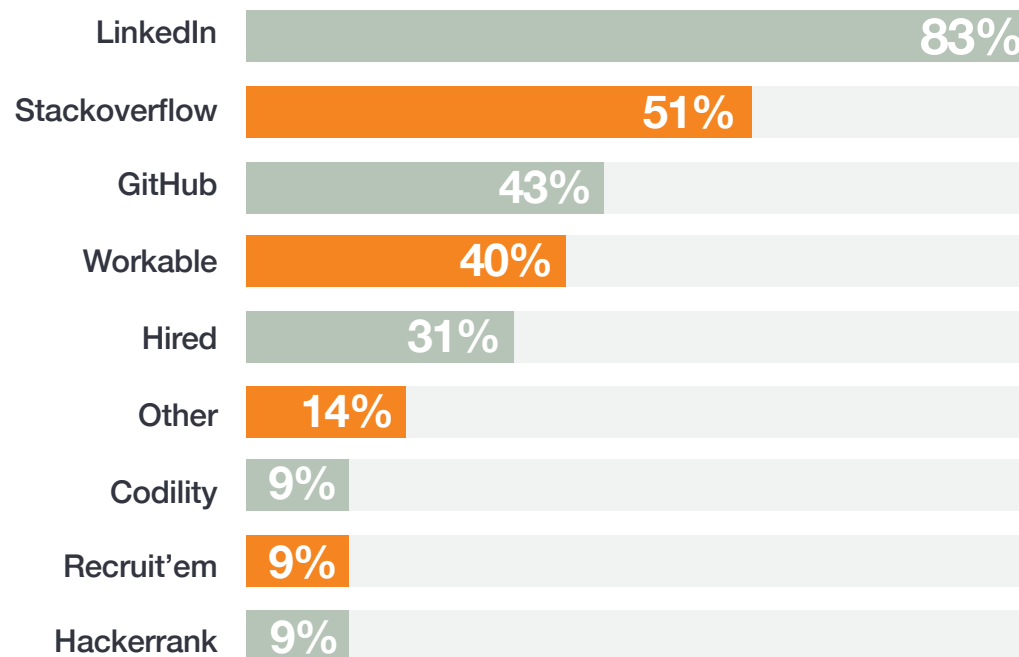
Employee referrals remain the best recruitment method, even if it is less scalable



- Results highlight the importance of both networks and branding
- Current employees are the primary gateway to new talent for many startups

Recruitment leverages a range of technical tools and platforms

What tools do you use to source tech talent?



Q: WHICH METHODS DO YOU USE TO SOURCE TECH TALENT?
SOURCE: BALDERTON TALENT SURVEY: N=41 INTERVIEWS

Recruiting non-engineering talent

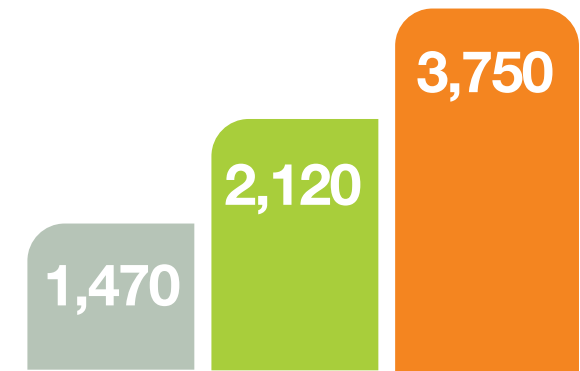
Time Taken (Weeks) 



Average Number of Candidates 

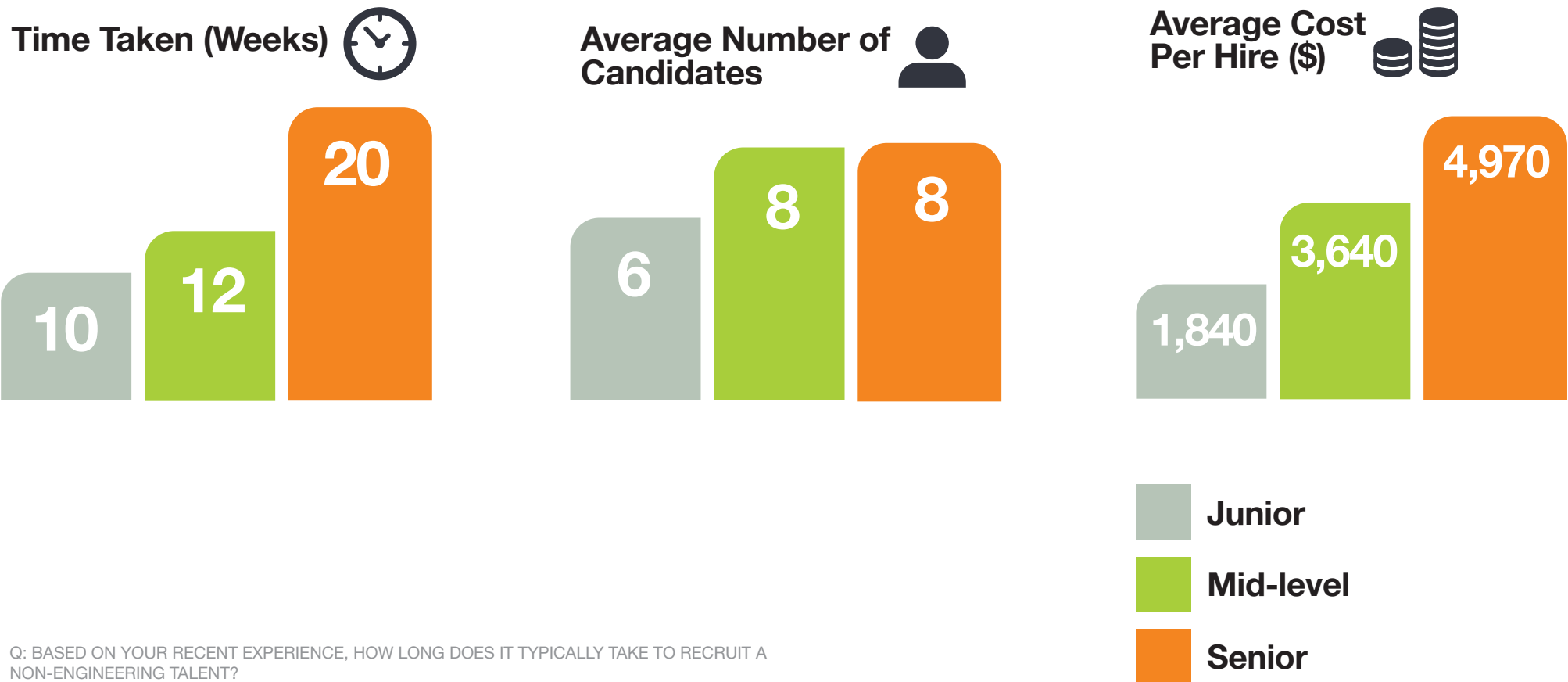


Average Cost Per Hire (\$) 



Q: BASED ON YOUR RECENT EXPERIENCE, HOW LONG DOES IT TYPICALLY TAKE TO RECRUIT A NON-ENGINEERING TALENT?
 Q: HOW MANY CANDIDATES DO YOU TYPICALLY INTERVIEW TO FILL A SINGLE NON-ENGINEERING ROLE AT THE FOLLOWING LEVELS?
 Q: WHAT IS THE TYPICAL COST PER PERMANENT HIRE (NOT INCLUDING SALARY) FOR A NON-ENGINEERING ROLE?
 SOURCE: BALDERTON TALENT SURVEY: N=41 INTERVIEWS

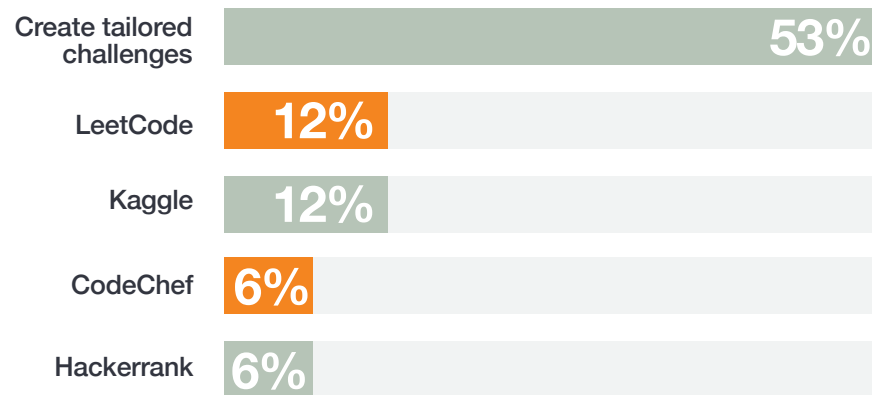
Recruiting engineering talent



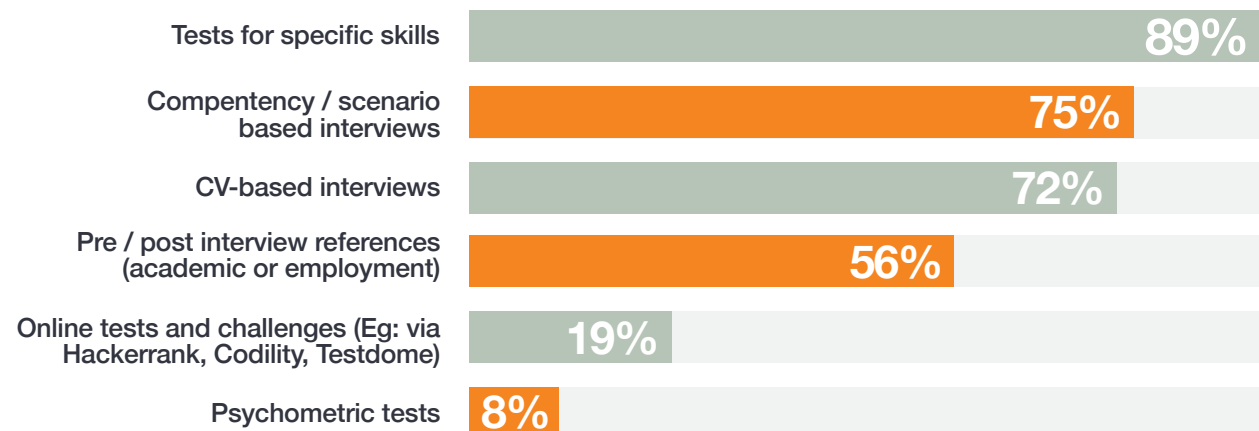
Q: BASED ON YOUR RECENT EXPERIENCE, HOW LONG DOES IT TYPICALLY TAKE TO RECRUIT A NON-ENGINEERING TALENT?
Q: HOW MANY CANDIDATES DO YOU TYPICALLY INTERVIEW TO FILL A SINGLE ENGINEERING ROLE AT THE FOLLOWING LEVELS?
Q: WHAT IS THE TYPICAL COST PER PERMANENT HIRE (NOT INCLUDING SALARY) FOR A ENGINEERING ROLE?
SOURCE: BALDERTON TALENT SURVEY: N=41 INTERVIEWS

Few startups rely heavily on online tests, with in-person, skill-specific interviews preferred

Approach used by those who set coding challenges



Which methods do you use to interview candidate?



Interview

Building a company culture

ROLAND LAMB, CEO ROLI



Q) What have you learnt from building multi-disciplinary teams at ROLI?

I think you learn a lot through the mistakes that you make. When I first hired 10 people, I expected everything to go 100 times faster. Then I kind of woke up and I said ok, I have to approach this in a smart way.

Q) Did your background in studying Classical Chinese and Sanskrit Philosophy help when building ROLI, and the company's culture?

I spent many years studying cultures and cross-cultural philosophy, and understanding how the linguistic and cultural systems in different parts of the world impacted how people think.

So [when building ROLI] I started to leverage some of those ideas, and thought about how we build a team, how we create the rituals and practises and ideas that can allow us to have not only an extraordinarily multidisciplinary team, but a multicultural team. People from all over the world, really working together.

Q) Tell me about your famous lunches ?

The whole team sit together and have a vegetarian lunch. It is wonderful because it is just nice to eat a nice lunch. It's an important part of enjoying one's working life.

Also, one of the big problems that arises when you grow, is that people become slightly separated into sub-teams or disciplines. The foundation of all communication, and the alignment of values, is a basic level of social understanding and recognition. You have to start by recognising the humanity in other people, and getting to know them, and knowing about who they are and where they come from.

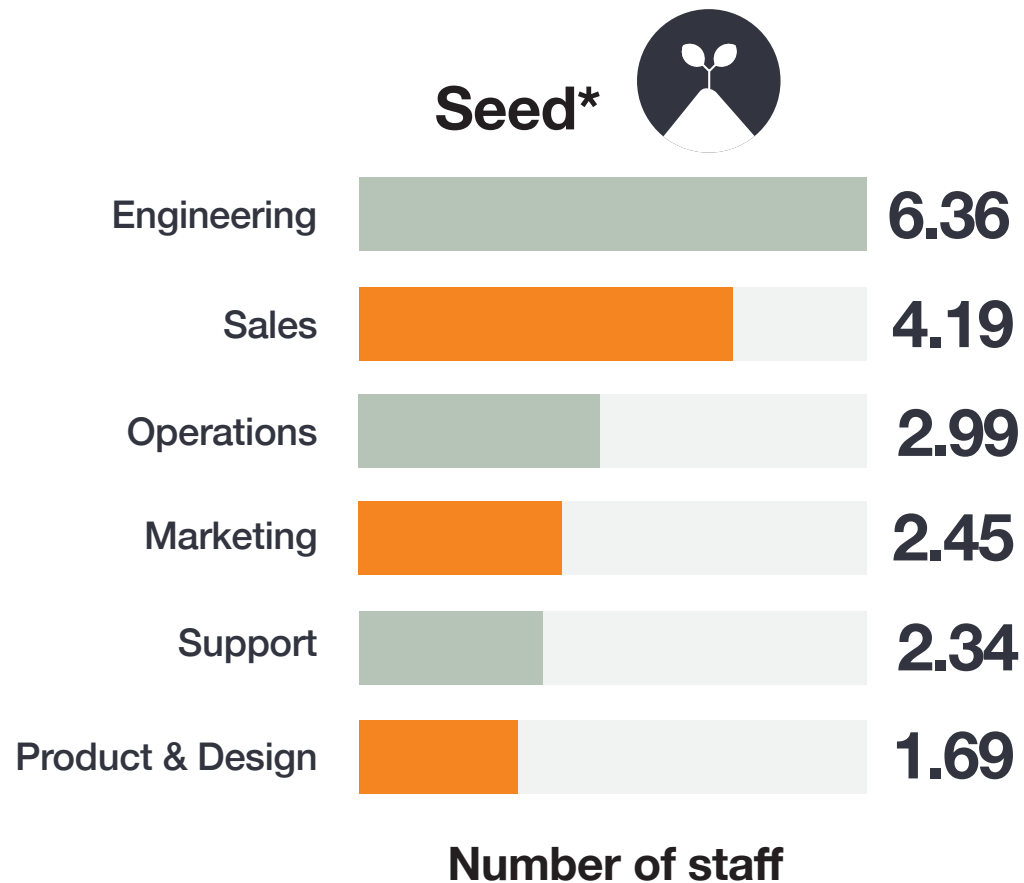
Another thing we do: once a month we have a friends and family dinner where all the members of the team can bring along their family or friends. We sit together and have a big meal. So once people have been at ROLI for a while, they know everybody else on the team pretty well, and they know their friends and family. It gives a sense of social cohesion, which really drives the business- and project-orientated communication.

Q) So you see a demonstrable, palpable effect on the business?

Absolutely. Whether it is thinking about retention rates, or motivation, or commitment and communication; it has a huge impact. Plus, to be honest, the sort of modern, urban, corporate approach to eating is kind of insane!

Managing and Retaining Talent

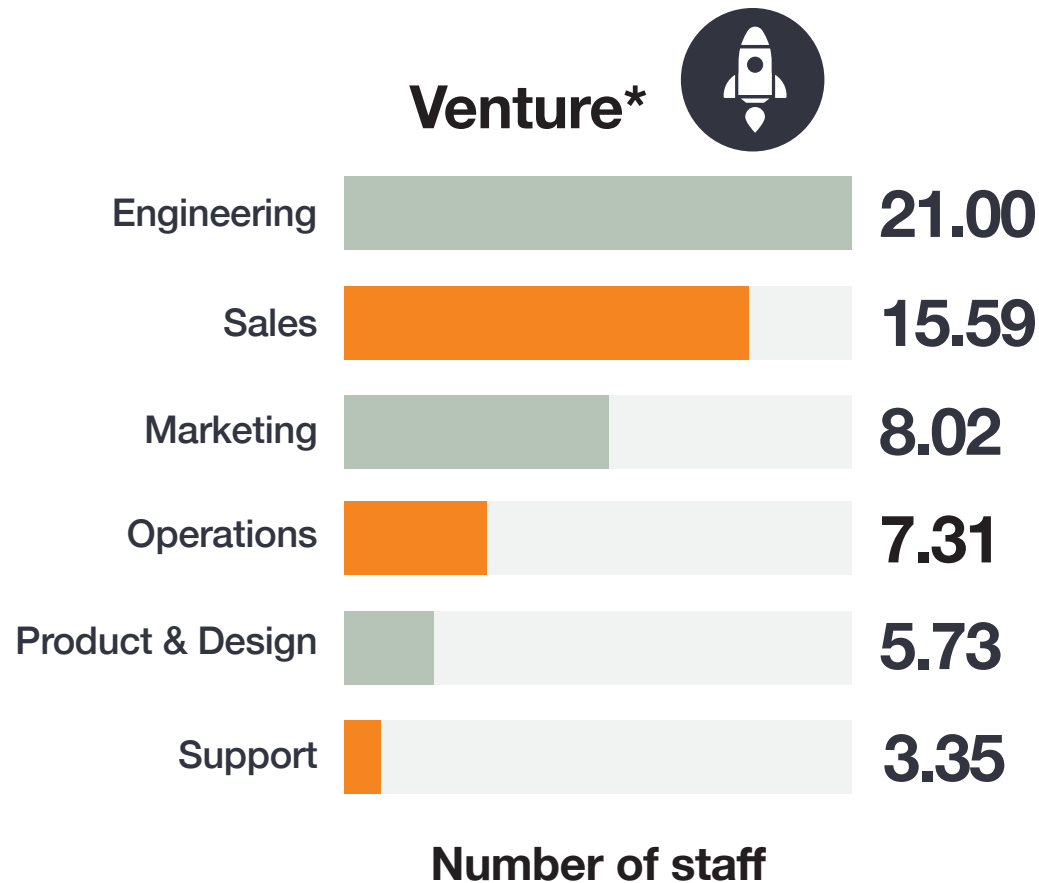
Tech startup profile: By job type



The most common roles in tech startups are sales and engineering. The proportion of staff employed in each role is broadly similar by stage

* SEED: RAISED \$1M - \$3M
% OF START-UP EMPLOYEES IN THE TOP 9 JOB ROLES
SOURCE: BALDERTON

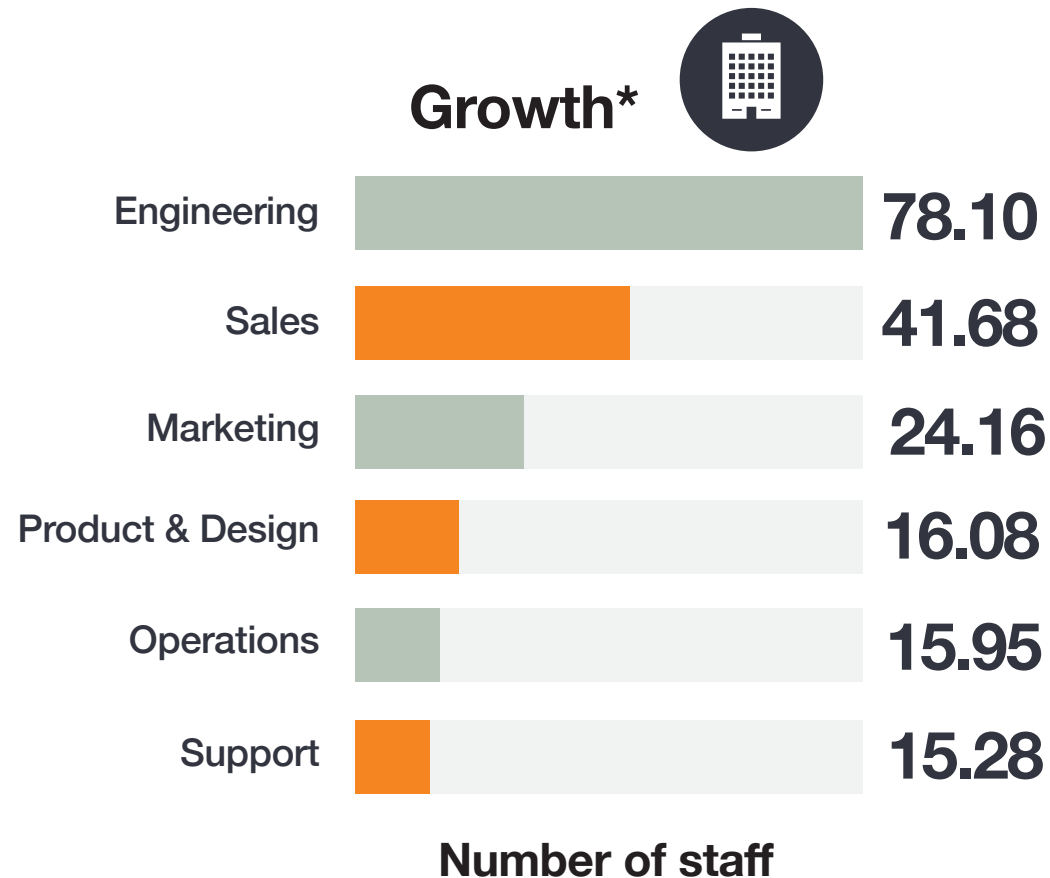
Tech startup profile: By job type



By venture stage (\$3M - \$20M), companies establish larger operations teams to include CFO and People leads

* VENTURE: RAISED \$3M - \$20M
% OF START-UP EMPLOYEES IN THE TOP 9 JOB ROLES
SOURCE: BALDERTON

Tech startup profile: By job type



Growth stage companies expand the number of employees by up to 12x from seed stage, and often see a big jump in support hires

*GROWTH: RAISED \$20M - \$100M
% OF START-UP EMPLOYEES IN THE TOP 9 JOB ROLES
SOURCE: BALDERTON

Interview

Scaling culture from seed to C

GRAHAM COOKE CEO QUBIT



Q) Qubit has raised three big rounds, does each new round of funding herald a different approach to hiring?

They absolutely do. At the early phase, you need to find people who are very flexible, and open to taking risks. People who can deal with the fact that you are going to change direction. If you hire a specialist too early, you will find these people may not see how to do that, and they might challenge the founders' vision. This can be quite tough, and I've seen companies fail because they have brought in specialists too early.

Q) Does part of your hiring strategy come down to company culture fit?

Culture eats strategy for breakfast. Culture is way, way more important. If you can create the right culture and values for your team, then you'll continue to hire great A-players. If you have a strategy for hiring and only that, you'll make mistakes and you'll hire 'B people'. B-people then hire C-people, and that's the end of the company.

Also, 90% of our costs are people, so we are all about hiring the right people. That is how we are going to build our product. So entrepreneurs have to scale that part. As yes, I can't interview every single person. I do review every single person's hiring pack, and I do know that cultural fit is a major part of our hiring process. Google did hiring really well, so we learned a lot about how to hire effectively and how to create a good process. That has led us to have a pretty good success rate.

You also need to be very quick at determining whether a person is right after they have been hired. A lot of people forget that. It's not just the hiring that is important, it's also that first three months after they have started. You have to be quick to act if the person is not right.

Q) What does the 'after-hire' process look like? How does the review system work?

We actually have evolved this quite a lot; we now have a peer review probation. So it's not a manager-led probation, but a peer review. Your peers are the people who will feed back following your first three months. If it hasn't worked out, then we part ways. It has been a really effective process for us. More generally speaking, anytime you think someone isn't right - the minute you really start to think that - you will end up letting that person go. So the sooner you can do that, the more efficient you will be as a business. We really try to not make it a ruthless, unemotional thing, but you do need to realise that building a business is about everybody being in a boat together. Having the wrong person on board can be very bad.

Team structures

% of companies with at least one team using this structure



Interview

Trying new company structures

BRAIN GARRET, FOUNDER 3DHUBS



Q. What is holacracy, and why did you initially choose it as an organisational model?

Holacracy is an operating system for organisations, it reduces the traditional management hierarchy with a focus on a peer-to-peer “operating system” which aims to increase transparency, accountability, and organisational agility.

At 3D Hubs we felt that lean-startup was a great tool for building a product, but it didn't tell us much about how to manage an organisation in an agile way. One of our early investors suggested to look at Holacracy. We adopted it, but instead of blindly going ‘all-in’ with Holacracy, we just took the parts that fitted and complimented our organisation, and we still stick to those today.

Q. How did you implement it and what changed when you did?

We implemented it when we grew to about 15 people and started splitting the company up into different teams. The biggest upside was the structure it added to a lot of the daily and weekly meetings, making them much more productive while resolving almost all tensions whenever they came up. Secondly it added a lot of clarity as to who was accountable for what, who reported to whom.

Q. How do you make decisions on organisation? Who is involved?

Through Holacracy we have split the organisation into 3 layers: Operational, aimed at getting things done as effectively as possible; Governance, tackling who is accountable for what through well defined accountabilities; Strategy, the vision and the ‘why’ for the next quarter.

By taking strategy and governance discussions out of the daily operations, decision-making becomes a lot more straightforward. Everyone knows there is a time for execution, and a time for talking strategy and brainstorming. Without this simple structure there can be a lot of “Why are we working on X instead of Y?”.

Q. Why have you changed the model, and when did you realise you wanted to switch?

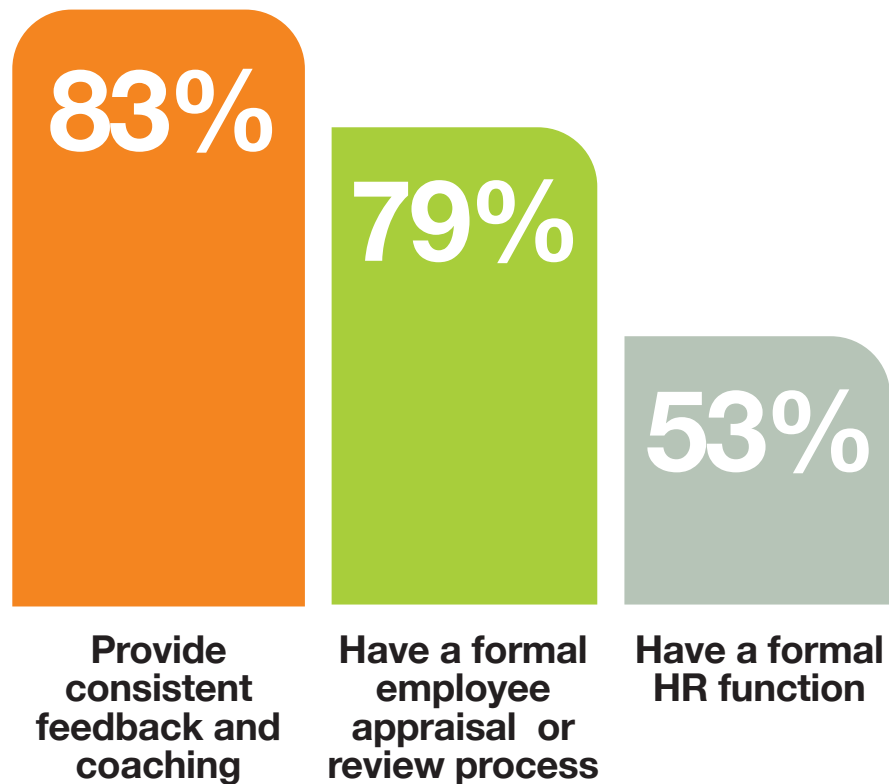
After running with Holacracy for over 2.5 years, and growing to 40+ employees, we started to feel a disconnect between our strategy and the day-to-day operations. Strategy was presented quarterly, set by the founders and management team, fed by input from the different teams. Relating to it from our sprints and daily activities was getting hard. By introducing OKRs in Q3 of 2016, we managed to make the strategy measurable, explicit and thereby more actionable.

Q. How do you track the organisational efficiency at 3DHubs?

Each employee and team sets OKRs that directly feed into the top company OKRs. On a weekly basis, teams check-in on the progress of their individual and team OKRs, and immediately see how these have pushed the top company OKRs forward. We use a tool called Betterworks for visualizing and communicating about OKRs within the company. Alternatively, you can of course use a simple Google Sheet to get started.

Post seed round, half of startups have HR function

Which practices do you have in place?



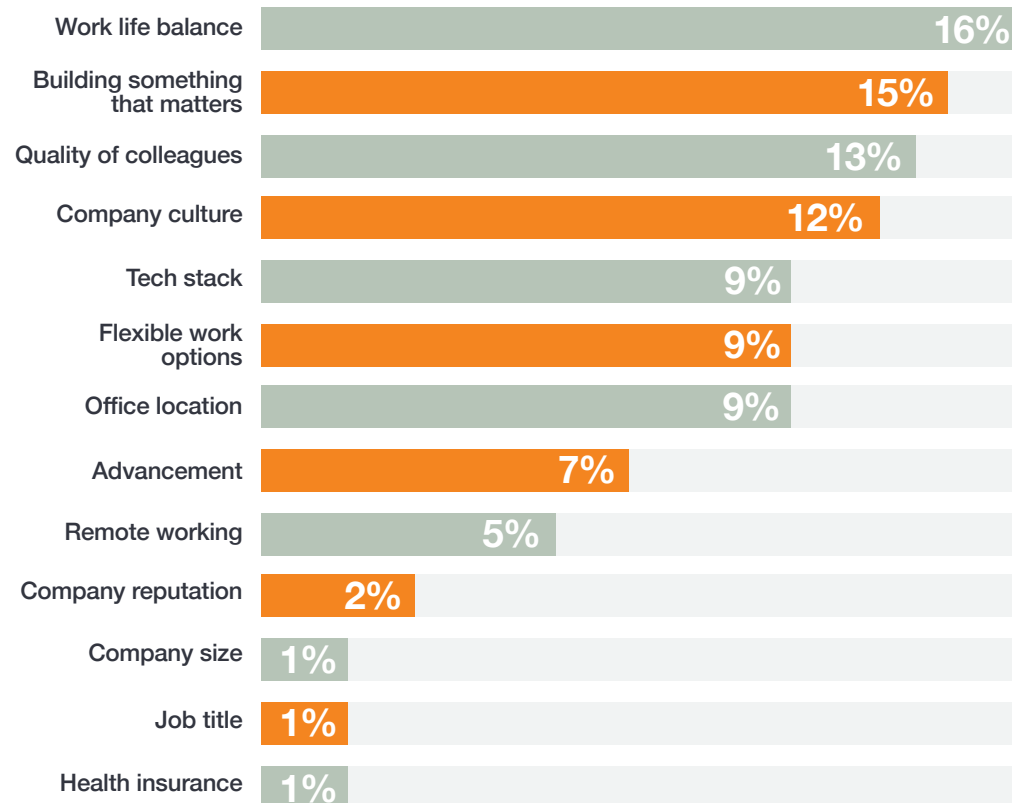
- Post seed round, half of start-ups put a HR function in place, with this growing to over 75% post Series C
- Most companies perform twice-yearly reviews, with only 25% doing this annually

Developers in particular say they are satisfied at work but change jobs regularly

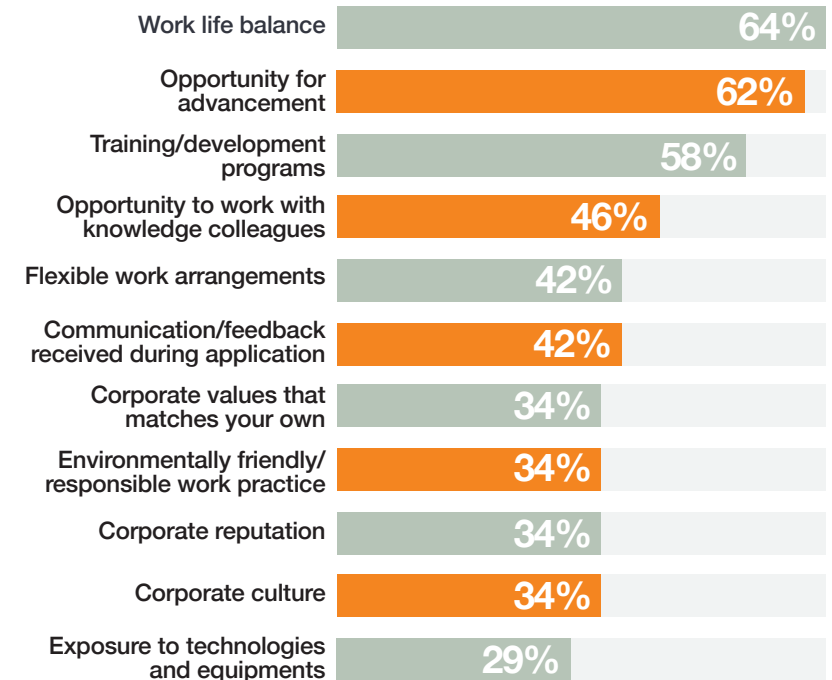


Most employees say that they want balance, connection and meaning at work

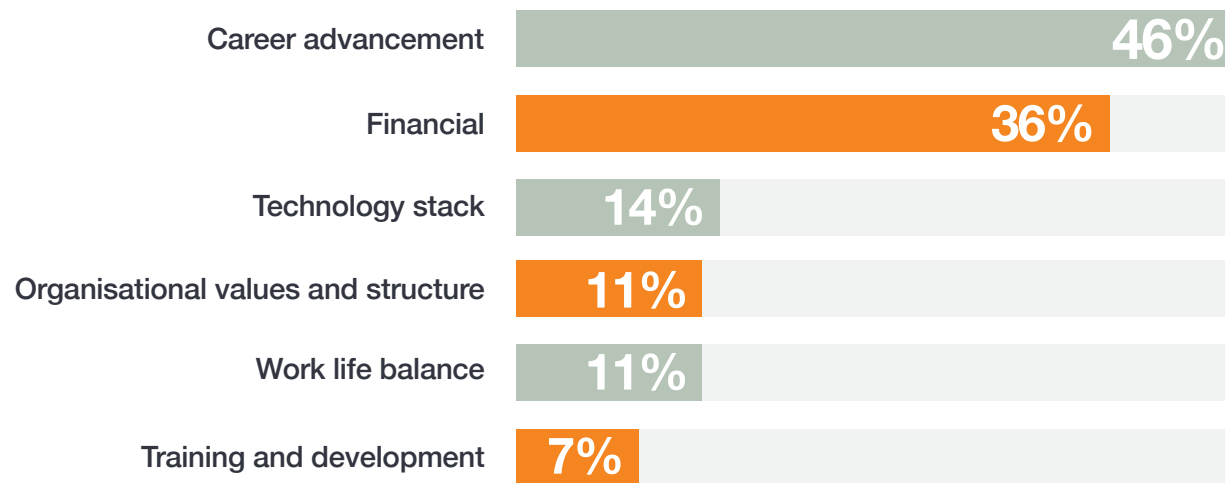
Most important aspects of a new job (for developers)



Most important aspect of new job – global benchmark (31 countries, all sectors)



However, HR believe career advancement and compensation matter most



The most common reason for people to move on to new roles according to their HR department is in order to further their careers (46%), although financial factors are also key in over a third of instances (36%)

Interview

Scaling, fixing and pivoting

CHRIS MORTON, FOUNDER LYST



Q) When you're starting out, is flexibility more important than five year plans?

Yes. There are 'unknowns' that you can't possibly conceive, so it's difficult to predict who or what you will need in two, five, ten years. It is really important to hire the person you need today, and not tomorrow.

Also, some people thrive working in small businesses, some thrive working in big businesses, some are entirely agnostic. For us, there have been some people were right at 10, who were not at 150.

Q) Is that necessarily a bad thing?

Some early employees scale, others don't. It is absolutely not a reflection on those who don't scale. Sometimes they want to remain a generalist, and they want to work in very small environments and, by definition, scaling is going to challenge that. This is a more familiar concept in mature startup ecosystems. In Silicon Valley, there is a self-awareness from folks who know that they are great early employees. Here in the UK, it's bit more of a mixed bag.

Q) When you raised \$40m, how did you maintain consistency in hiring?

I don't think graceful consistency is actually a good way to scale. We believe in scaling, and then having a fixing phase.

After we raised the \$40m round, we grew the team. We almost doubled it in 15 months. When you grow that quickly, it is difficult to anticipate 100% of the success you will have. Whereas, when you grow organically and slowly, you have time to fix as you go.

Every time we have gone through quick growth spurts, we set aside a period of 6-9 months in which we grow far less aggressively. This is the fixing phase. We ask questions like: have we got the structure right? Is what we imagined 12 months ago actually what we need? We shore up the foundations, and make sure that we are building on solid ground. This then prepares us for the next phase of growth. If you don't fix, and instead grow your team at a consistent gradient of 45 degrees, you will never have time to fix the foundations. This can lead to catastrophic failure.

Methodology

The methodology and primary sources for this report are detailed below

Balderton Talent Survey Data

The Balderton Talent Survey was conducted online between 14 – 28 October 2016. The survey received responses from 42 companies, including CEOs and their senior colleagues in startups across Europe. Although the sample size is modest, it offers a unique, timely and detailed insight into the perspectives of leading members of the startup community.

Balderton Data on Companies Funded in 2015

In order to build an in-depth profile of 1,200 tech startups across Europe who raised funding in 2015. We used publically available data on these businesses and their employees. We were then able to analyse the resulting dataset covering c.15,000 people in detail, generating insights on, for example, the educational and employment background of European talent.

Indeed Prime

All Indeed Prime research is based on aggregated and anonymised data from jobseeker and employer behaviour on Indeed. The Indeed Prime data used in this report is based on jobseeker clicks and employer postings in EU15 countries. The job posting data on Indeed includes millions of jobs from thousands of sources. It is important to note that Indeed job postings do not reflect the precise number of jobs available in the labour market, as an opening may be listed on more than one website

and could remain online for a period of time after it has been filled. Moreover, employers sometimes use a single job posting for multiple job openings. However, the data does represent a broad measure of each job title's share of job openings in the labour market.

Other Data

Software developer activity: We drew on information taken from Github's open API to assess location data on active developers in 2015 as well as StackOverflow Insights.

Number of startups in each city: in order to estimate the number of start-ups we used calculations provided by eu-startups.com which were based on the number of startups that are registered for each city on Crunchbase and AngelList.

Investment data: In order to calculate the levels of investment in startups across Europe over the period 2011 – 2016: we used data provided by Dealroom.com.

Developer opinions: We conducted extensive analysis of data collected in the 2015 Stack Overflow developer survey, exploring the responses of 6,559 individuals who identified themselves as developers in full time employment across Europe.

Stem graduates: We have used 2014 Eurostat analysis which calculated the percentage of individuals aged 20 to 29 years old that hold a STEM (Science, Technology or Math) degree in that country.

Glossary

Digital tech industries:

Businesses that provides a digital technical service/product (including hardware and platforms) as their primary revenue sources or provide a product/service that is reliant on digital technology as its primary revenue source.

Investment:

Finance available to early stage businesses from private individuals or companies such as angel investors, institutional venture capital funds or corporate venture capital funds.

Tech Startups:

Companies in the digital tech industries ranging from those at the first stage of venture capital financing - often raising relatively modest amounts of capital in order to finance the early development of a new product or service – through to more established businesses in a high growth phase of development which have received a number of funding rounds. Some analysis in this report focuses specifically on European tech startups which raised finance in 2015.

Tech Jobs:

Roles in the digital tech industries.

We would like to thank the following companies for making data available for this study

