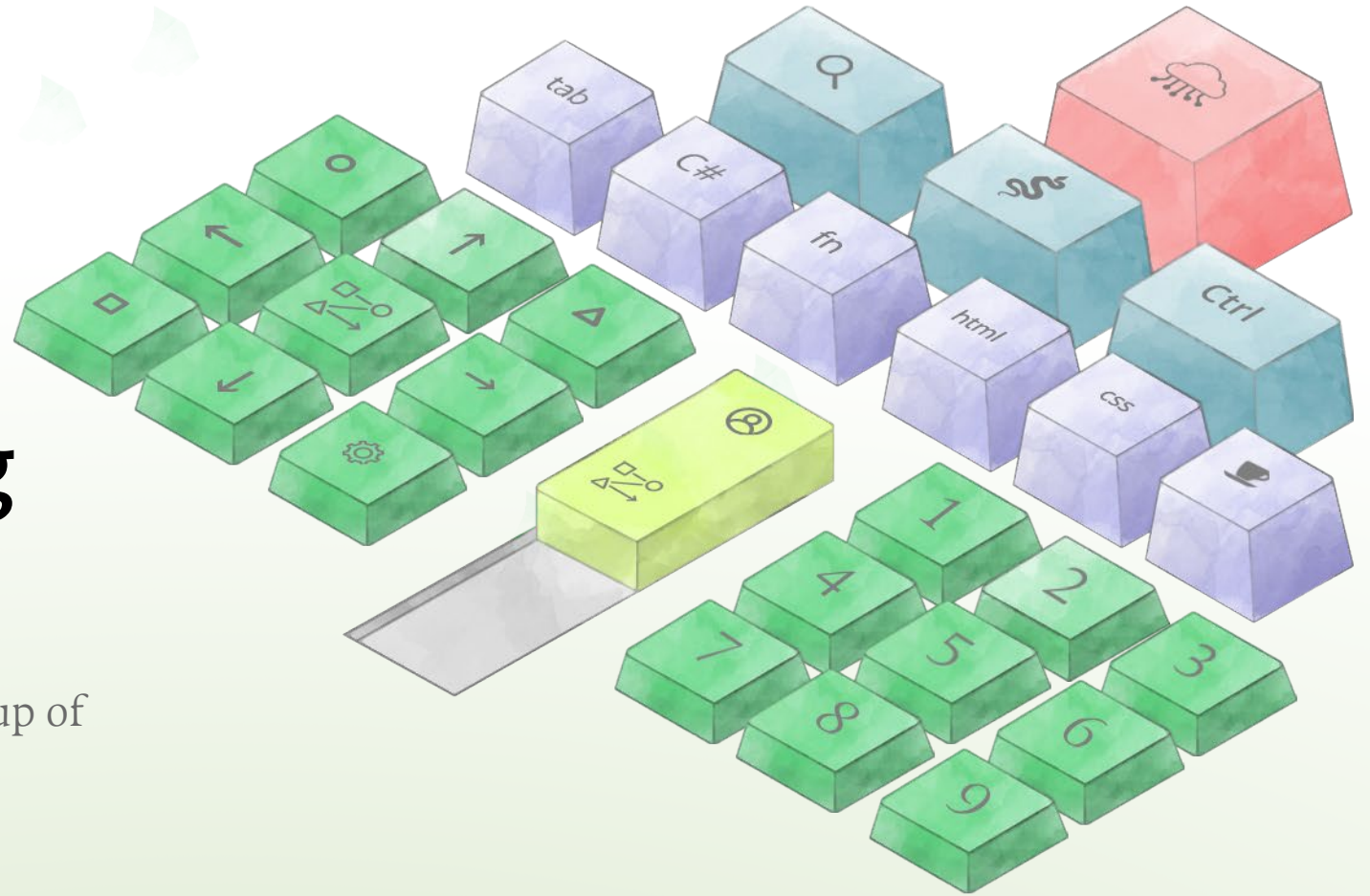


June 2024

Engineering Series

Building Engineering and Product Teams

A deep dive into org structure and the make-up of engineering teams



About the research

Explore the series

R&D has been a **significant line item in total spend** and a **key differentiator for companies**, yet it is often the function that organizations have the **least visibility into**. Unlike finance or sales and marketing, it is also challenging for engineering leaders to find relevant or publicly available data and insights to benchmark their engineering team performance.

In this series

We use organizational data and industry perspectives to **provide detailed answers to the key R&D questions** we receive from SaaS leaders. Although engineering and product development are closely tied, this series will be focused **primarily on engineering-specific metrics and challenges**. We will examine topics spanning the state of modern-day engineering orgs, **developer productivity, compensation, org structure, and engineering operations**, in order to share best practices and proprietary benchmarks to help you scale your engineering organization.

In this report

We analyze **the make-up of modern-day engineering organizations in 2024**, with a particular focus on topics like **headcount ratios, sequencing of key hires, workforce arrangement, talent attrition**, and more.

Chapters in The Series

ICONIQ Growth's Engineering Series provides detailed answers to **key questions across the following operating and executive hiring topics** utilizing proprietary data¹ and industry perspectives from 200+ B2B SaaS leaders and 100+ engineers at SaaS companies.

➔ The State of Engineering	- The future of engineering - DevOps maturity - Developer experience - Impact of AI
Product Leadership	- Hiring your next Head of Product from \$0-\$50M ARR - Hiring your next Head of Product from \$50M ARR to IPO
Engineering Leadership	- Hiring your next Head of Engineering from \$0-\$50M ARR - Hiring your next Head of Engineering from \$50M ARR to IPO
Building Engineering and Product Teams	- Org structure and make-up of engineering teams - Typical headcount ratios - Diversity in engineering
Compensation & Incentives	- Compensation for engineering and product teams - Performance evaluation
Engineering Operations	- Developer productivity - Capacity allocation - Tooling and DevOps

**The Engineering
Reporting Guide**

**Engineering
Board Slides**

Notes: (1) Please refer to page 6 for methodology and data sources

There can be no such assurances that any plans or operational characteristics of a company discussed herein will continue or be realized on the terms expressed herein or at all, and such plans are subject to uncertainties and risks.

Supporting founders through pivotal milestones and various stages of growth

Executive Hiring

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Eleven Labs

Mati Staniszewski
Co-founder and CEO

Product and Go-to-Market Strategy

Technical Advisory and Go-to-Market Boards

Strategic advisory from industry leaders with hands-on experience in technology, digital innovation, go-to-market, and more

“It has been so valuable to lean into ICONIQ’s expertise, network, and advice. What you do is a total game changer.”



PIGMENT

Eléonore Crespo
Co-founder and CEO

Revenue Acceleration

Portfolio Operations
Digital and Growth Advisory Boards

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SIERRA

Bret Taylor
Co-founder and CEO

Category Leadership + Operational Optimization

Analytics and Insights

Data-driven insights to support decision making across business operations and strategy

“Working with ICONIQ has been a dream partnership, they’ve gone above and beyond at every step.”



WRITER

May Habib
Co-founder and CEO

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Follow our research



Go-To-Market Series

Guides to sales, customer success, marketing compensation – and more



Decoding the SaaS IPO Landscape

The metrics that matter and the market realities of 2024 and beyond



2023 Growth & Efficiency Report

Explore our research on best-in-class SaaS growth and efficiency



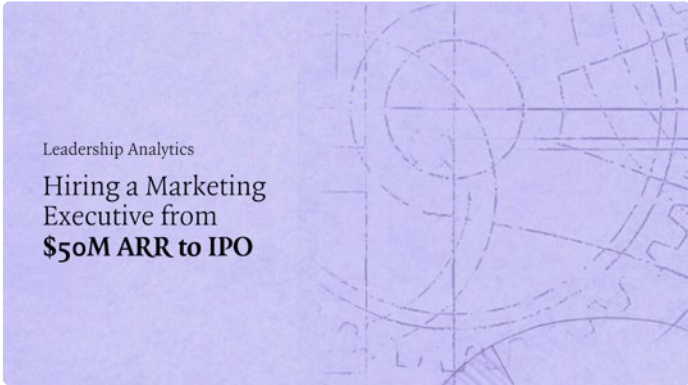
The ICONIQ Growth Enterprise Five

Key performance indicators of Enterprise SaaS companies



The SaaS Glossary

A guide to understanding and tracking key SaaS metrics



Hiring Your Next Marketing Leader

What to prioritize when hiring a Marketing executive from \$50M ARR to IPO

Data Sources & Methodology

This study summarizes data from a December 2023 survey¹ of **200 engineering executives** at B2B SaaS companies, including CTOs, founders, and VPs of Engineering.

Slides leveraging this dataset will be marked with this legend **CTO Survey**

Data from Engineering Leaders



(1) This data was collected anonymously by an external survey. Survey responses include some but not all ICONIQ Growth portfolio companies as well as companies not part of ICONIQ Growth's portfolio. For a complete list of ICONIQ Growth portfolio companies, please see the appendix.

Collaborators & Industry Perspectives

Throughout this series, we also weave in **perspectives, insights, and best practices from engineering executives** in the ICONIQ Growth SaaS portfolio and network.

Perspectives were gathered via interviews with the following collaborators as well as other generational leaders via ICONIQ Growth communities and events.

All industry perspectives shared in this report have been anonymized to protect company-level information.



1Password
Pedro Canahuati
CTO



BetterUp
Amol Kher
VP Engineering



DRATA
Daniel Marashlian
Co-founder, CTO



DevRev
Manoj Agarwal
Co-founder, President



ezcater
Erin DeCesare
CTO



Nayya
Arik Gaisler
CTO



recharge
Joseph Mosby
Director of Engineering



UNITE US
Raffaella Breaks
CPO and CTO



virtu
Dana Morris
Sr VP, Product & Eng.



Wealthsimple
Diederik van Liere
CTO



WRITER
Waseem AlShikh
Co-founder, CTO

And additional insights from the **ICONIQ Technical Advisory Board**



Aditya Agarwal
Former CTO at Dropbox
Formerly: Co-founder at Cove, Director of Product Engineering at Meta



Anantha Kancherla
VP ADAS at General Motors
Formerly: Head of AI Platform at Meta, VP Engineering at Lyft Level 5



Matt Eccleston
Former VP Growth at Dropbox
Formerly: Chief Architect at VMware



Trademarks are the property of their respective owners. None of the companies illustrated have endorsed or recommended the services of ICONIQ. Not all companies on this page are ICONIQ Growth portfolio companies. For a complete list of ICONIQ Growth portfolio companies, please see the appendix. Insights from some but not all ICONIQ Growth portfolio companies as well as companies not part of ICONIQ Growth's portfolio.

The R&D Org

This is an illustrative R&D organization framework; not all organizations will have each role shown here depending on maturity and some may benefit from a different reporting hierarchy than the one shown.

In particular, the organizational structure of your R&D teams will vary significantly depending on whether you have a product-centric or technology-centric model.

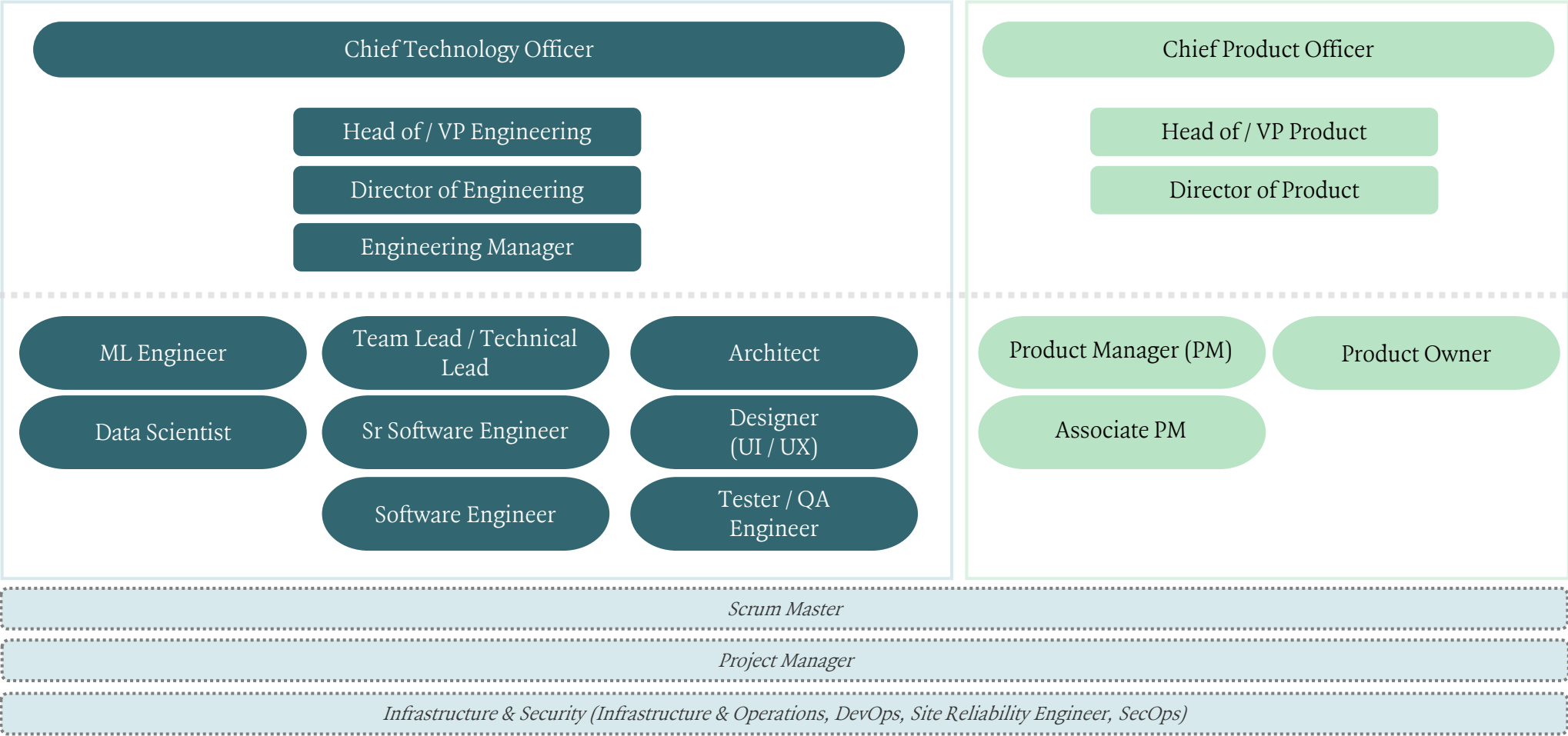
Illustrative Org Structure

Categorized as “Engineering” headcount in this study

Categorized as “Product” headcount in this study

LEADERSHIP

INDIVIDUAL
CONTRIBUTORS



Organization Structure

A detailed look at headcount distribution, key ratios, and team structures.

Key Questions Covered in this Section

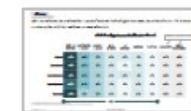
Reference Pages

How much of our R&D budget should be allocated to people?



[Page 13](#)

How should the make-up of our product and engineering org evolve as we scale?



[Page 16](#)

How should Engineering Leaders think about the sequencing of key hires?



[Page 18](#)

What does the typical engineering pod look like in terms of size?



[Page 20](#)

When should leaders consider setting up a platform team?



[Page 21](#)

Should R&D teams be product or tech-centric? What kind of technical backgrounds should engineers have?



[Page 23](#)

How does the role of engineering leadership evolve as companies scale?

Further deep dive to follow as part of our Leadership Analytics Series



[Page 25](#)

Executive Summary

The Make-up of an R&D Organization

- **Software Engineers make up ~40%** of R&D headcount, regardless of scale, with the make-up of other IC roles staying relatively consistent as well
- **Leadership roles make up ~20%** of the R&D organization, regardless of scale
- As companies scale, **infrastructure roles become a larger proportion** of the R&D organization
- Building a platform engineering team early on can also **help accelerate the development process and improve the efficiency of the entire software development team**

Sequencing of Key R&D Hires

\$5-\$10M ARR: Most R&D teams are **lean, with dedicated FTEs only for critical roles at this stage** (e.g., CTO, Tech/Team lead, Software Engineers, Designers, PMs, and DevOps)

\$10-\$25M ARR: Companies start **building out the broader R&D leadership team**. Most companies hire for VP/ Head of Engineering, VP/Head of Product, and Engineering Managers

\$25-\$50M ARR: Most companies **hire a Director of Engineering** and have dedicated FTEs for **new IC roles such as Product Owner and Business Analyst**

\$50-\$100M ARR: Most companies invest in **building out their Product Leadership through hiring a Chief Product Officer and a Director of Product**. In addition, they also further invest in **deepening the Ops & Enablement function** with dedicated FTEs for **Platform Engineers, Security Ops, and Project Managers**

Product vs Technology-Centric Organizational Structure

- **Clear prioritization and understanding of trade-offs** are crucial in organizational design; organizing by product typically **accelerates product development, fosters accountability, but can also create technical debt**, while organizing by technology typically **pays down technical debt but can muddy accountability, especially at scale**
- Though **organizations may oscillate between these approaches**, we have seen **most companies move to a product-centric organization structure** over the years

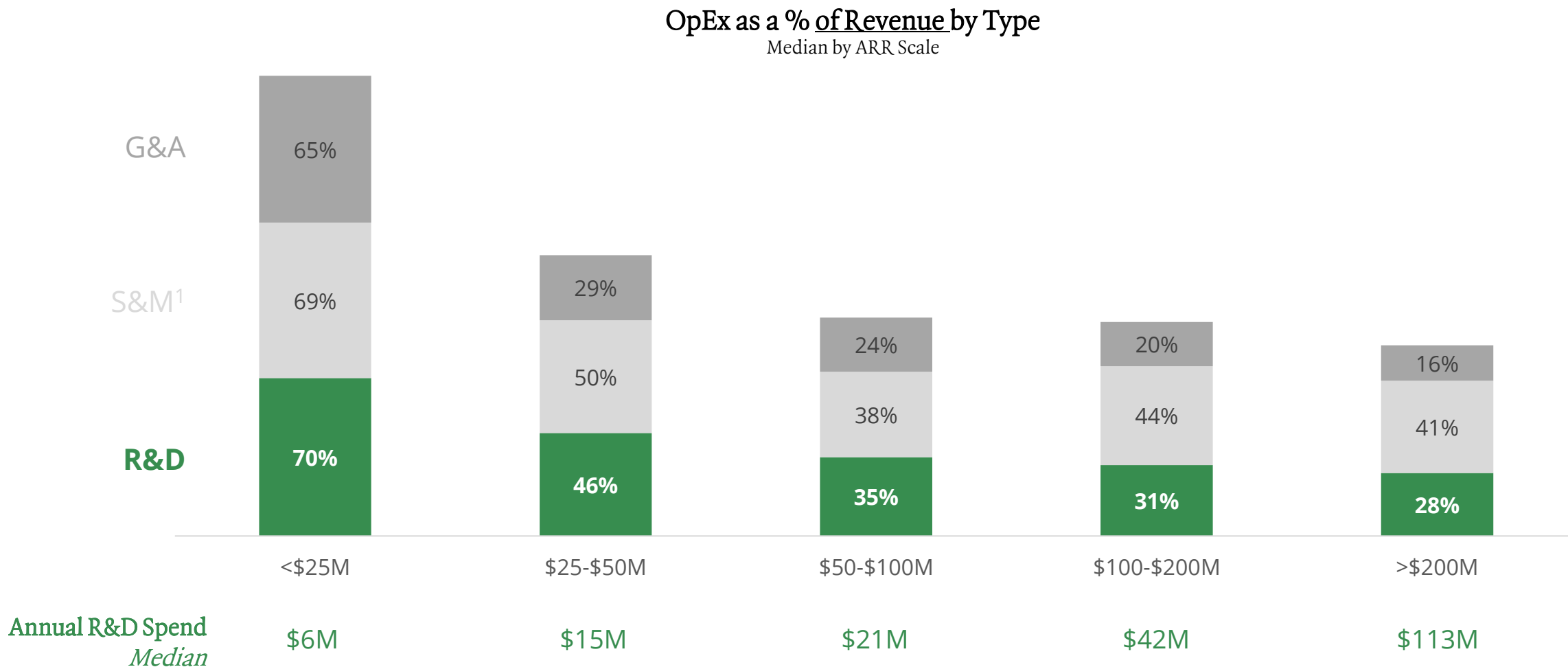
The Role of Heads of Engineering

- As organizations scale, the **main challenge for Heads of Engineering** is to **navigate how engineering interacts with the rest of the company**. Fostering discussions about engineering priorities and **how those map back to the broader goals of the organization** is essential for building empathy and understanding of engineering resourcing needs
- Engineering leaders need to **communicate how the engineering budget maps back to business value**, manage dependencies, and negotiate with the rest of the company

Org Health

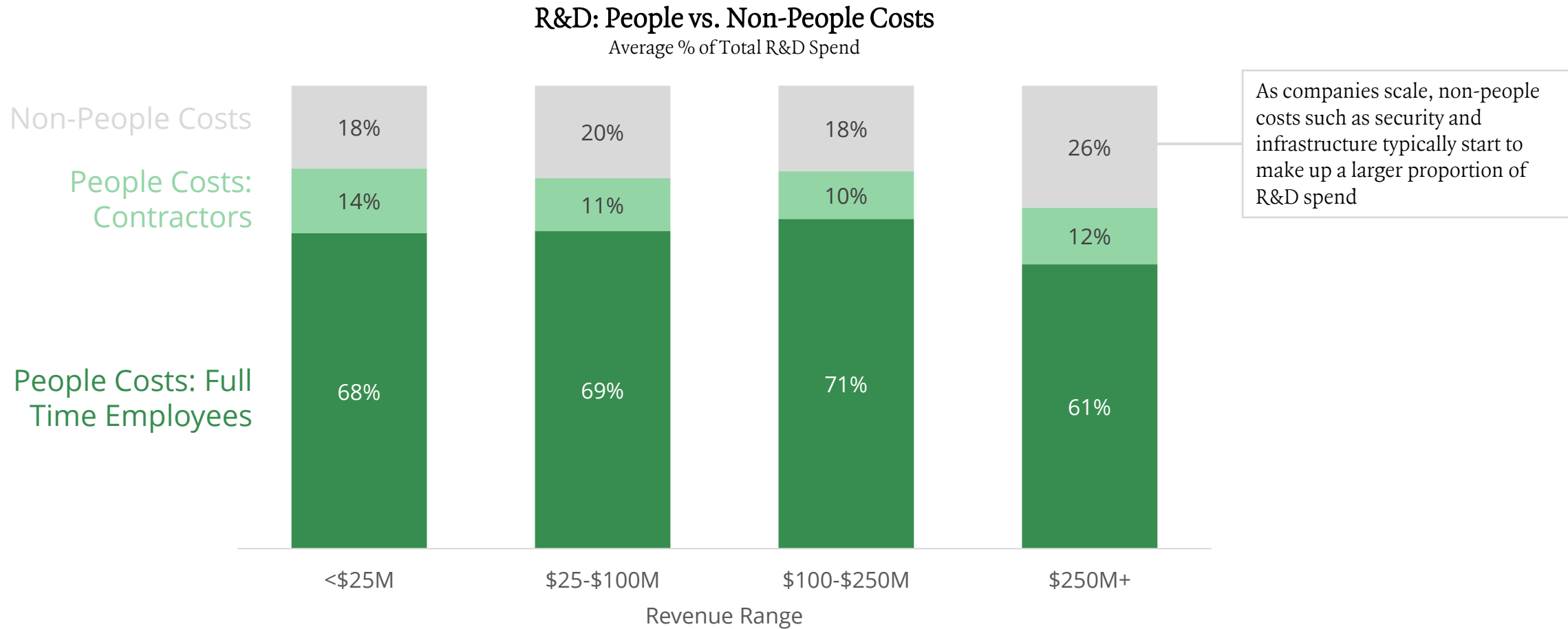
- The **majority of R&D teams now operate in a remote-first hybrid arrangement**, with 76% of respondents indicating that they spend two days or less in the office each week
- Fully **remote teams tend to have lower average attrition rates (13%) compared to primarily in-office teams (24%)**, perhaps due to the flexibility provided to engineers
- **Diversity has remained a challenge** for most companies as **only ~20-30% of ICs are female or BIPOC**. Diversity within Leadership roles is even lower than in IC roles, regardless of scale

R&D typically comprises the largest portion of OpEx spend as companies scale to \$25M, before plateauing to ~25-30% of revenue as companies reach critical scale



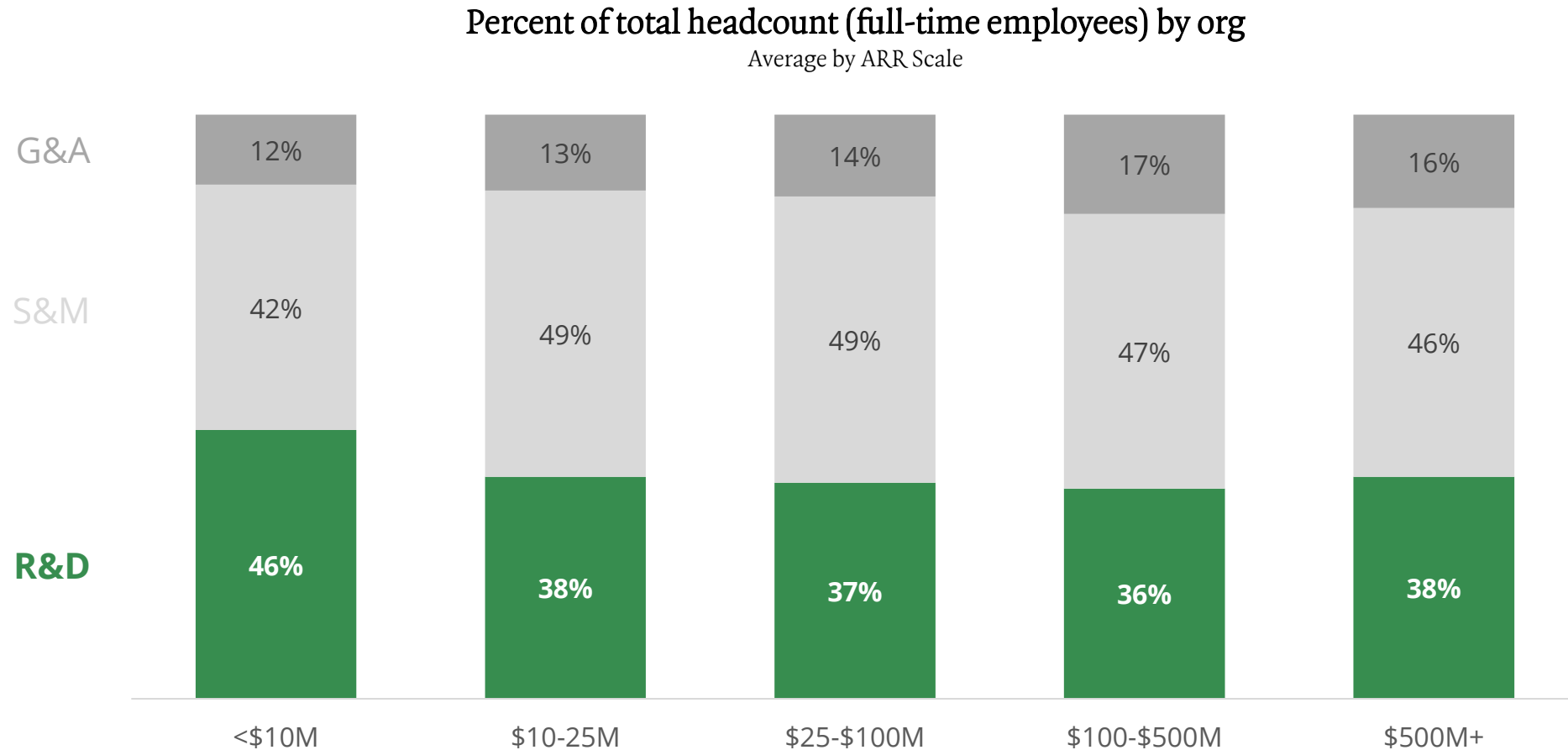
Source: ICONIQ Growth 2023 Topline Growth & Efficiency Report; based on quarterly operating and financial data from ICONIQ Growth portfolio companies and a selection of public companies from 2013-Q4 2023
 1 Total Sales & Marketing OpEx includes Customer Success

Within R&D OpEx, personnel costs comprise the largest portion, usually accounting for ~70-80% of total spend; As such, setting up a strong organizational structure and operating model is a critical point of leverage for CTOs



Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

While R&D typically makes up the largest team early in a company's product development journey, it typically gains leverage over time, landing closer to 35-40% of total headcount as companies scale

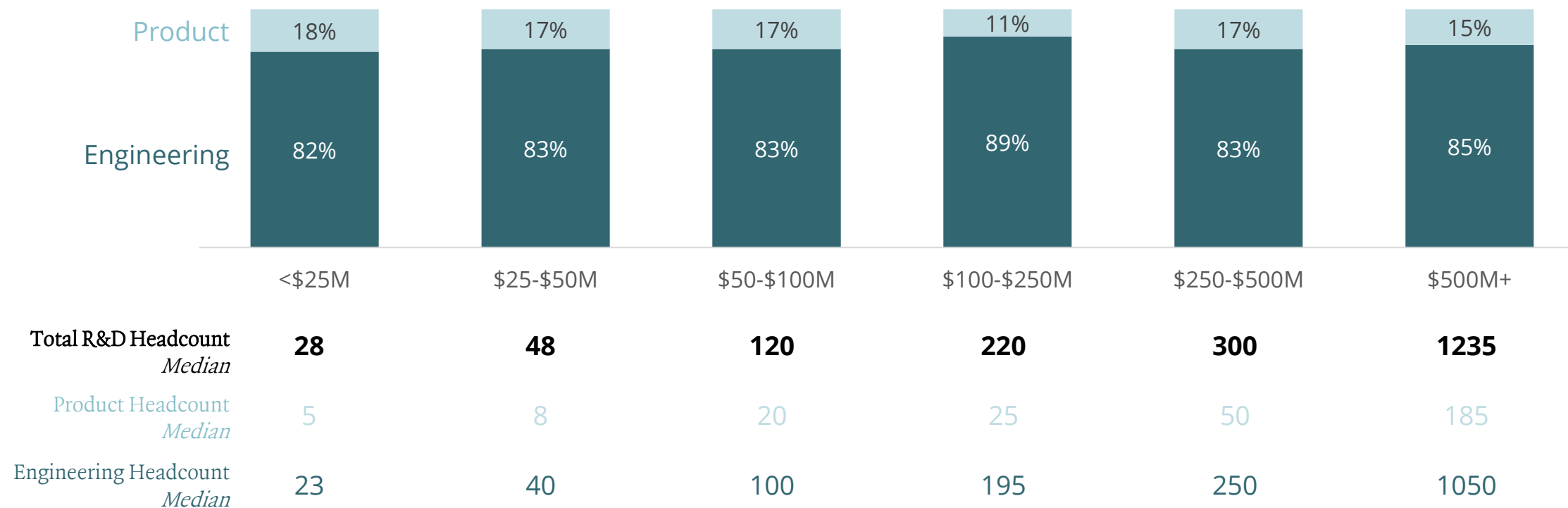


Source: ICONIQ Growth 2023 Topline Growth & Efficiency Report; based on quarterly operating and financial data from ICONIQ Growth portfolio companies and a selection of public companies from 2013-Q4 2023

Within the R&D organization, engineering makes up ~80-90% of the total R&D headcount, while product typically comprises ~10-20% regardless of scale

Distribution of R&D Headcount

% of total team and Revenue Range



Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

Software Engineers make up ~40% of R&D headcount, regardless of scale, with the make-up of other IC roles staying relatively consistent as companies scale

Distribution of R&D headcount (Individual Contributors)

Average % of total R&D headcount by Revenue Range and Role

Detailed breakdown on page 17

	ICs						Leadership	Ops & Enablement
	Software Engineer	Product Manager ¹	Data Scientist	ML Engineer	Designer	Architect		
<\$25M	42%	8%	3%	3%	4%	2%	22%	16%
\$25-\$100M	40%	8%	3%	2%	4%	2%	23%	18%
\$100-\$250M	41%	7%	3%	3%	4%	1%	22%	19%
\$250-\$500M	37%	9%	5%	1%	3%	1%	23%	21%
\$500M+	40%	8%	3%	2%	3%	2%	20%	22%

Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

1. Includes Associate Product Manager, Product Manager, Senior Product Manager, and Product Owner

As companies scale past \$25M in revenue, they tend to invest more heavily in FTEs dedicated to infrastructure; In addition, Leadership roles make up ~20% of the R&D organization, regardless of scale

Distribution of R&D headcount (Leadership and Ops & Enablement)

Average % of total R&D headcount by Revenue Range and Role

Detailed breakdown on page 16

	Leadership				Ops & Enablement			
	Engineering Director+ <i>Director and above¹</i>	Product Director+ <i>Director and above²</i>	Engineering Manager	Infrastructure ³	Tester / QA Engineer	Project Manager	Other ⁴	Individual Contributors
<\$25M	7%	5%	10%	8%	4%	2%	2%	62%
\$25-\$100M	7%	4%	12%	12%	3%	2%	1%	59%
\$100-\$250M	6%	4%	12%	13%	3%	2%	1%	59%
\$250-\$500M	6%	5%	12%	13%	4%	2%	2%	56%
\$500M+	6%	5%	9%	14%	3%	3%	2%	58%

Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

1. Includes Director of Engineering (i.e. second-line manager), Head / VP of Engineering, and Chief Technology Officer

2. Includes Director of Product, Head / VP of Product, and Chief Product Officer

3. Includes DevOps (3-4%), Platform Engineers (3-5%), Infrastructure and Operations (1-2%), Site Reliability Engineers (1-2%), Security Ops (1-2%)

4. Includes Business Analyst, and other ancillary Product and Engineering roles

While the optimal time to hire the first dedicated FTE for key R&D roles will depend on business needs, hiring trends tend to converge around different inflection points of growth

The first stage⁴ at which > 50% of companies have dedicated FTEs in a R&D role

\$5-\$9M	\$10-\$25M	\$25-\$50M	\$50-\$100M	\$100M+
Leadership CTO / founder Team Lead / Tech Lead	Leadership VP/Head of Engineering VP/Head of Product Engineering Manager ¹	Leadership Director of Engineering ²	Leadership Chief Product Officer Director of Product ²	Leadership
Individual Contributors Software Engineer Senior Software Engineer Product Manager Designer	Individual Contributors Data Scientist	Individual Contributors Product Owner Business Analyst	Individual Contributors	Individual Contributors
Ops & Enablement DevOps	Ops & Enablement	Ops & Enablement	Ops & Enablement Platform Engineers ³ SecOps Project Manager	Ops & Enablement



Check out our report on Product Leadership [here](#).

Timelines for hiring QA Engineers and ML Engineers are not specified as these roles are contingent upon the unique strategy of the respective companies (e.g. AI-enabled products, testing and automation)

Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

Note: Roles are additive across stages

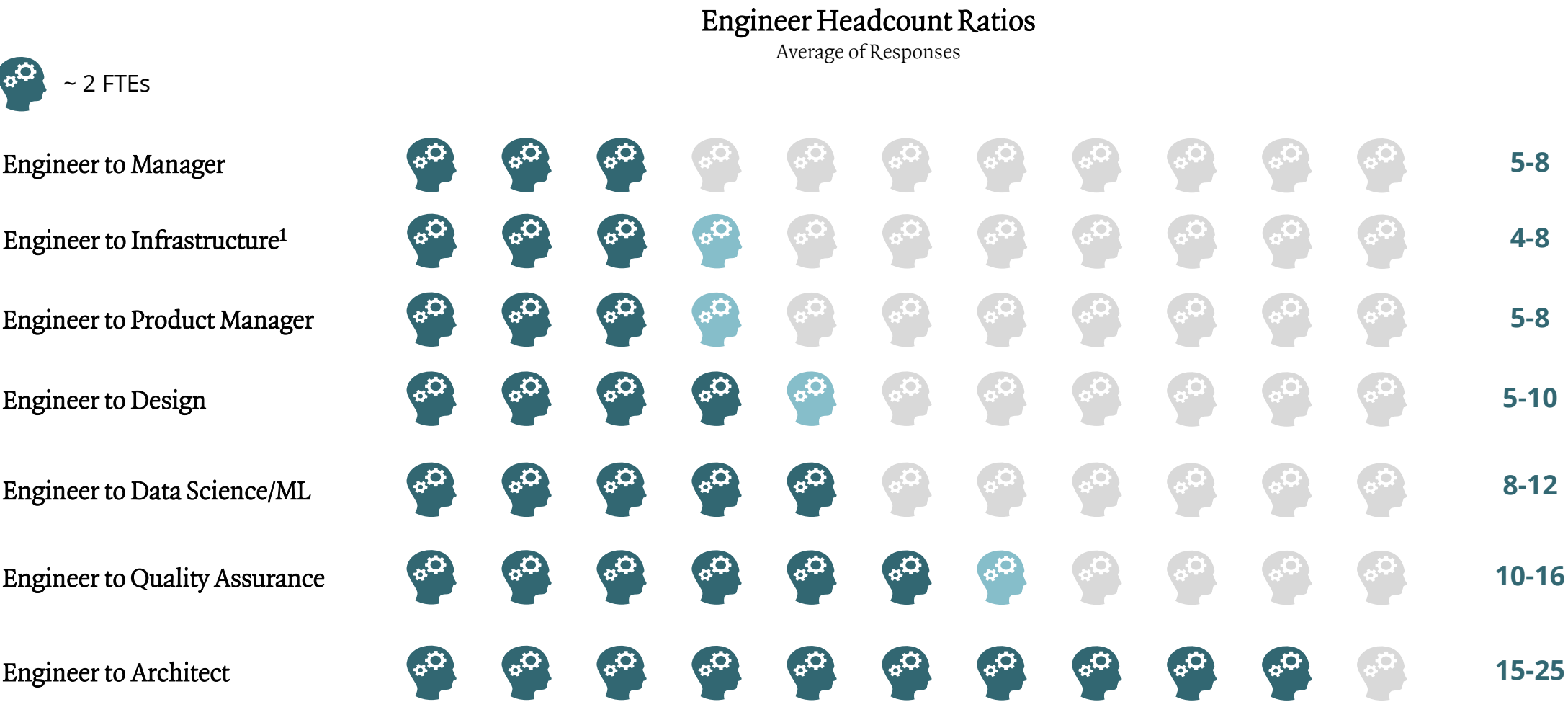
1. first-line manager

2. Second-line manager

3. Includes Site Reliability Engineers

4. Measured by Annualized Revenue

Although team composition and headcount ratios vary based on a company's strategic and operational objectives, our survey data offers a benchmark for what constitutes a healthy range

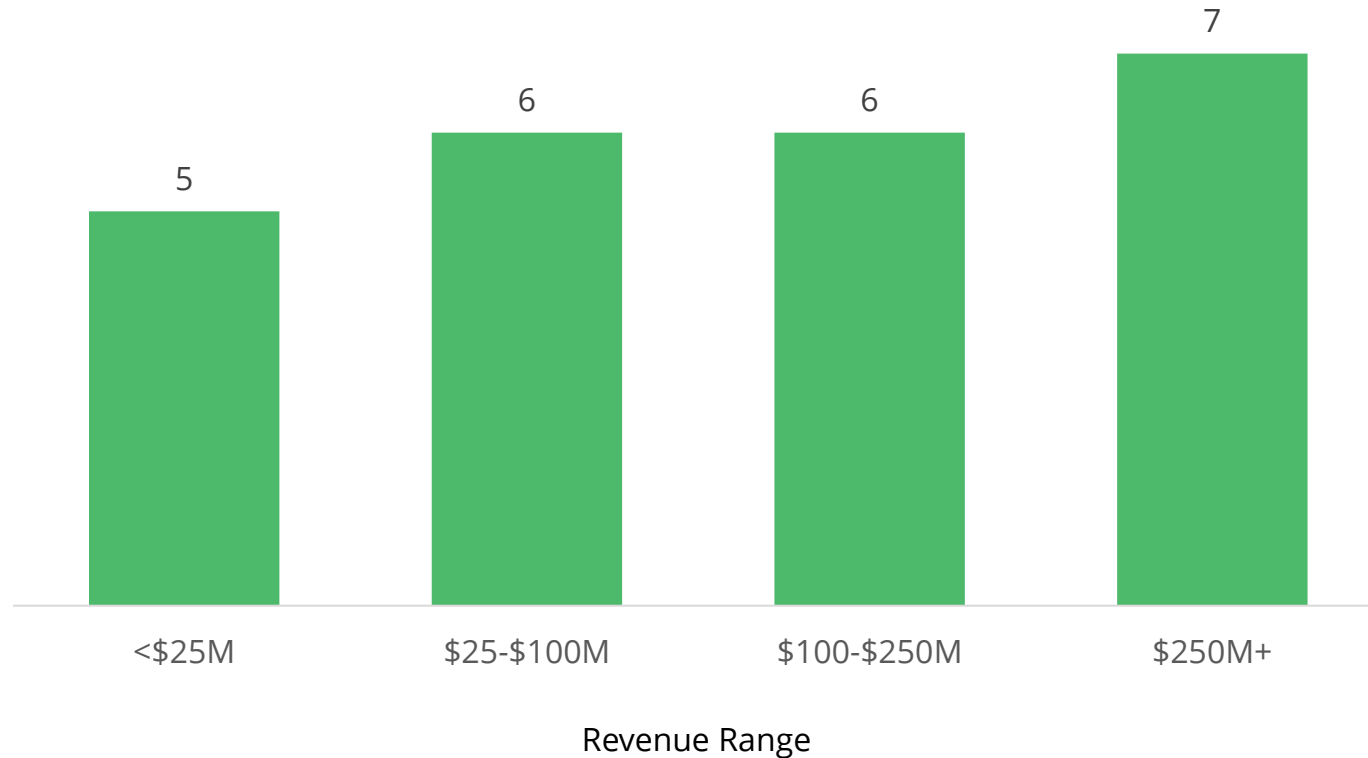


Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202
1.Includes Infrastructure & Operations, DevOps, Platform Engineers, Security Ops, and Site Reliability Engineers

Engineering pod sizes are typically smaller in earlier stage companies; Operating in smaller pods with clear targets cultivates focus, direction, and accountability, generally leading to better outcomes

What is your average engineering team / pod size?

Average of Responses



“

Running in smaller pods with clear targets allows us to have a more effective engineering organization.

CTO, Application Software (Growth Stage)

Source: ICONIQ Growth CTO Survey (December 2023, n-size = 202) and perspectives from engineering leaders in the ICONIQ Growth network presented on Slide 7

Engineering leaders highlight the importance of introducing a shared platform team early on (~50 FTEs) to provide leverage to developers

What is a Platform Team?

The platform team designs, builds, and maintains the **underlying infrastructure, workflows, frameworks, and tools** that support application development, deployment, and management.

Having a platform engineering team can **help accelerate the development process and improve the efficiency of the entire software development team**. By offloading the responsibility of managing the underlying infrastructure and tools to the platform team, **other engineers can focus on writing code and implementing critical features**.

Perspectives from Leaders

“Implementing **a platform engineering team as early as possible** is crucial. We probably implemented our team a little too late. It becomes especially important as **you have enterprise customers and a large support organization** which ultimately **leads to a lot of requests**.”

*Engineering Leader
Application Software
Growth Stage*

“We needed to start a platform team with the goal of **providing leverage to developers and help them move faster**. We had initially partnered with a third party to build out this team. Admittedly, we were not so strong on DevOps. Therefore, **hiring and screening for a DevOps mindset** became very important.”

*Engineering Leader
Infrastructure & Security
Growth Stage*



Our Technical Advisory Board¹ typically recommends launching a Platform team when the Engineering team grows beyond ~50 FTEs

Source: Perspectives from engineering leaders in the ICONIQ Growth network presented on Slide 7
1. Interview with the TAB

Engineering teams are typically organized by technology, product, some hybrid of both, or in a matrix model

Product Team

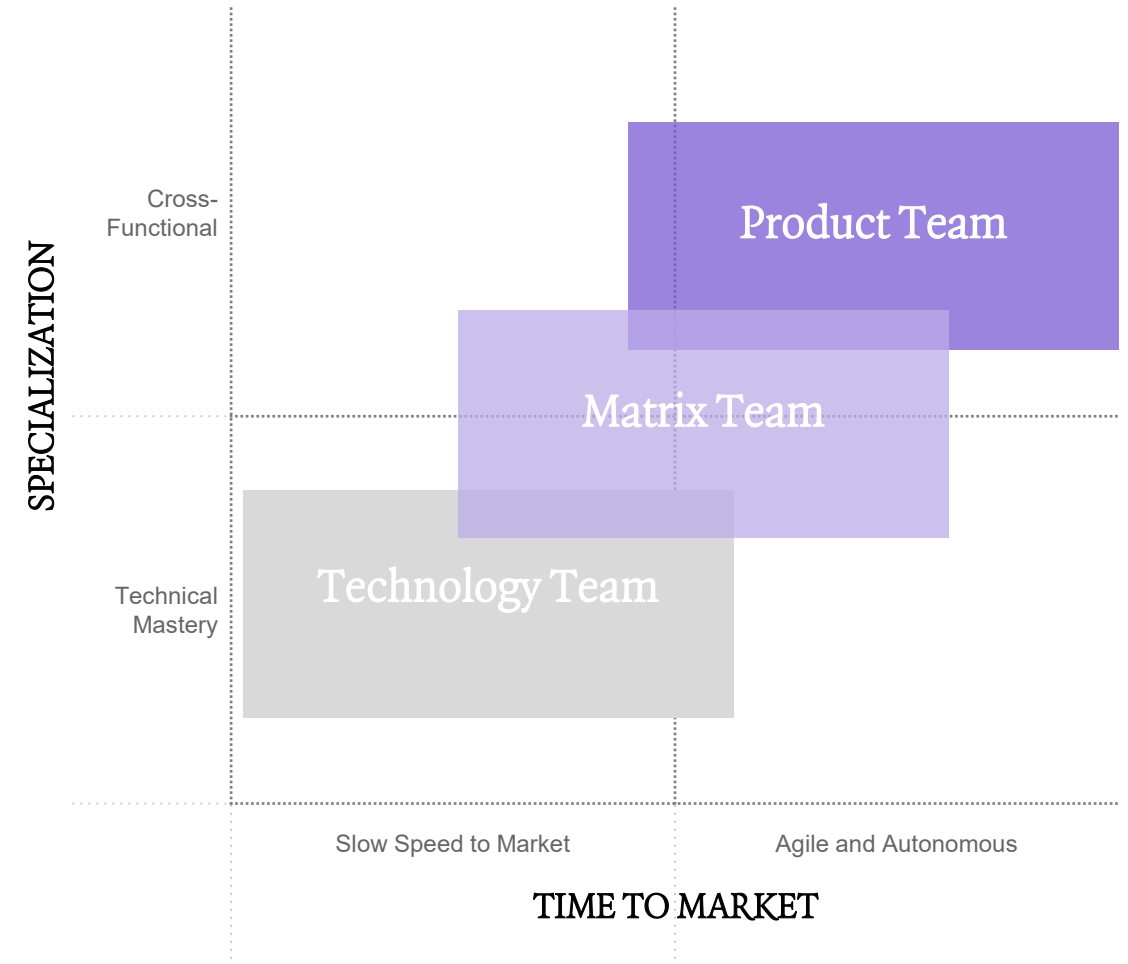
Organized around a product (or persona) area with the team having all roles needed to build the product and one manager. This type of team is **more likely to build a unified product** and be more closely aligned to business success. However, product teams may devote **less time and energy to technical excellence**.

Matrix Team

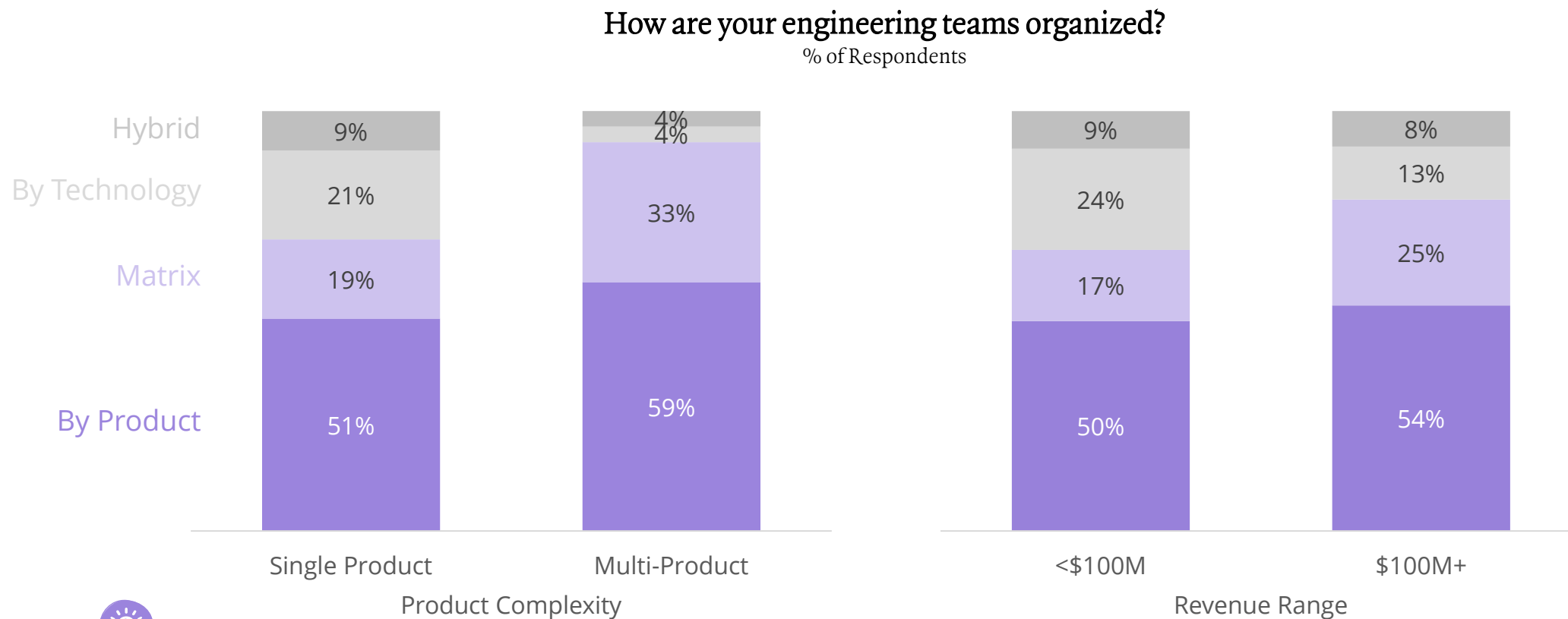
Cross-functional team made up of specialists from different areas. This team is usually a temporary project team organized to develop a specific product or feature. This team orientation fosters **closer collaboration across functions** and improves time to market by having **all the required skills to build and deploy in one team**. Conversely, **decision-making may be more difficult** in this structure given multiple reporting lines and team leadership.

Technology Team

Focused on a **technical area** (e.g., mobile, back-end) with members in the team specializing in the particular area. This team orientation results in **high technical mastery**, which means the team's codebase is likely to be high quality and reduces the possibility of technical debt. However, engineering organizations with technology teams may have a **slower time to market** due to the **waterfall development style** required to coordinate across technical teams.



Companies with multiple products and larger scale (\$100M+ in Revenue) tend to organize their engineering teams by product or in a matrix model



While there are trade-offs between organizing by product vs. technology, we've seen most companies move to a product-based approach over the years. Organizing by product accelerates product development, fosters accountability, but creates technical debt, while organizing by technology pays down technical debt but can muddy accountability, especially at scale.

Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

Spotlight: Org Structure and Priorities for 2024



BetterUp

Amol Kher
VP of Engineering



Last year, we began consolidating all requests from sales and marketing into a roadmap document, creating both quarterly and monthly business release roadmaps that are shared across the organization. This initiative has proven to be a valuable tool in fostering shared understanding and facilitating negotiations regarding different priorities. Additionally, it provides a sense of internal timeboxing, demonstrating that deadlines, when used effectively, can drive conversations around prioritization and enhance overall efficiency.



Org Structure

- We currently have ~100 engineers and are fully remote. **Our org structure is tied to product** although we have considered a matrix structure as well
- We've been experimenting with various pod structures:
 - Previously, we had pods of 3-7 FTEs, but they were scattered (about 20 of them), which made cross-collaboration difficult. Our old structure was more **project-driven rather than having a centralized team**.
 - Now, we've **reorganized our pods based on persona: coach, members, partners**; Each pod has a **fixed engineering director, product lead, and design lead**
- In addition, we have a core services team and a **separate DevEx team focused on creating tools for faster deployment**. DevEx becomes particularly **important as its own function when you scale past 50-70 engineers**.



Priorities for 2024

- **Improving Productivity:** Instead of focusing on scaling org and onboarding, how do we shift focus to make our engineers more productive and to do more with less
- **Tighter Feedback Loops:** Driving a tighter feedback loop between what we're delivering to customers and what they need. More challenging with B2B solutions, where there is often a time lag in receiving feedback on whether or not the product is resonating. We need to find ways to prove the product's effectiveness earlier in the process



Source: Interview with Amol Kher (2024)

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Spotlight: The Role of Engineering Leadership



Matt Eccleston
ICONIQ Growth
Technical Advisory
Board

*Formerly VP Growth at
Dropbox, Chief Architect
at VMware*



How does the role of Heads of Engineering evolve as companies scale?

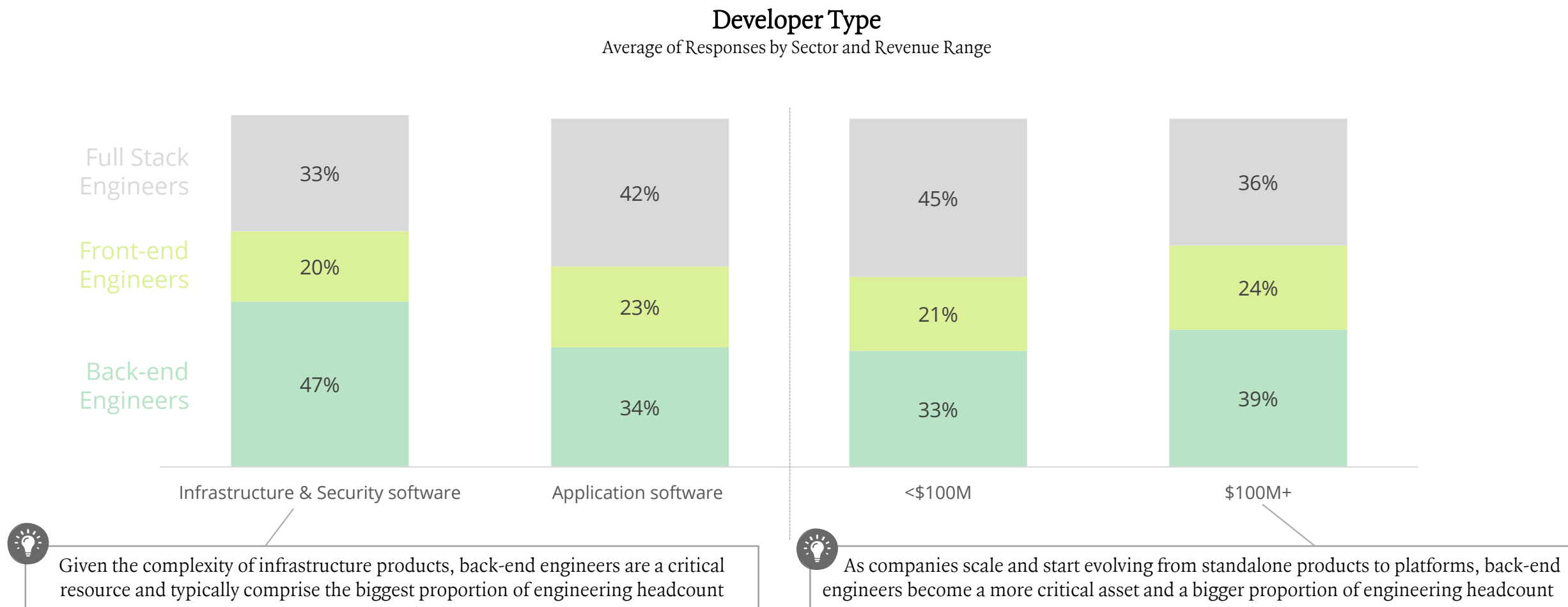
- “ As organizations scale, the main challenge for Heads of Engineering is **navigating how engineering interacts with the rest of the company**
- Many engineering leaders are accustomed to focusing solely on engineering tasks. However, as the company grows, they **need to figure out how to communicate/coordinate with sales, finance, support, marketing**. If you have to **negotiate with other parts of the company, you need to understand their language** and how they think about the business
- Suddenly, you take someone that spent their entire career in engineering and the most important thing they now have to do is **become a generalist and an excellent communicator; that is the bootcamp many CTOs need to go through to become an effective leader** ”

When does a General Manager (GM) model make sense?

- “ In the early stages of a company's growth trajectory, **Product and Engineering often operate as separate entities with their own leadership roles**. However, as companies grow larger and **become multi-product, they may consider unifying them under a General Manager (GM) model**, which is a trend we see more of especially as companies are closer to IPO
- In a multi-product environment, having a **GM oversee each product can be effective, serving as both a product and engineering lead or mini-CEO** for that division
- Hiring for a successful GM may be a challenge as ideal candidates typically consist of a blend of product and engineering DNA, having gained experience in both domains ”

Source: Interview with Matt Eccleston, member of the ICONIQ Growth Technical Advisory Board
Trademarks are the property of their respective owners. None of the companies illustrated have endorsed or recommended the services of ICONIQ. Insights from companies not part of ICONIQ Growth's portfolio.

Infrastructure companies tend to rely more heavily on back-end engineers compared to application software companies; Also, earlier stage companies generally rely more on full stack engineers as generalists vs. front-end / back-end specialists

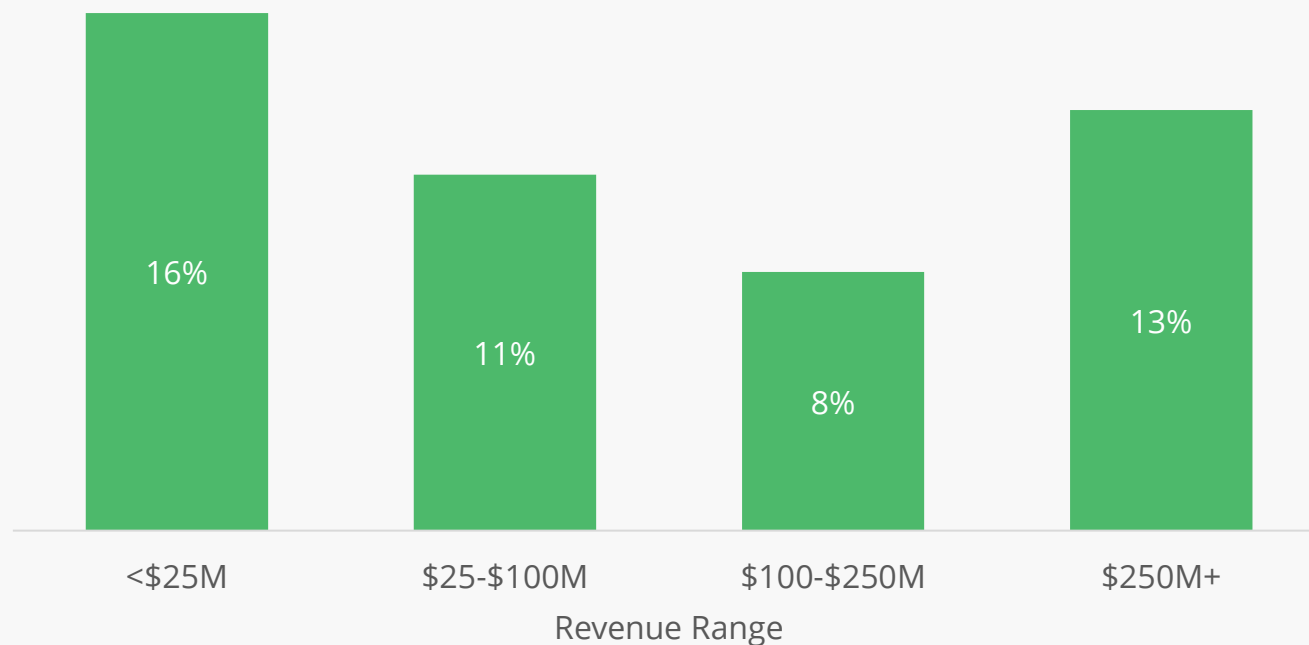


Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

Third party developers make up ~10-15% of total engineering headcount and are generally utilized for a variety of use cases such as staff augmentation, testing and internal tooling

3rd Party Developers as % of total R&D Headcount

Average of Responses, N= 102



Common Use Cases¹

In order of most common



Staff augmentation



Testing, maintenance



DevOps support, internal tooling



Migration and integration



Special projects, UI/ UX

Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

1. Most repeated responses

Spotlight: Engineering and the Rest of the Organization



Matt Eccleston
ICONIQ Growth
Technical Advisory
Board

*Formerly VP Growth at
Dropbox, Chief Architect
at VMware*



How should teams balance priorities between customer requests and planned product roadmap?

- “ Shielding the core engineering team from these interruptions can be beneficial, as it **allows them to focus on the development roadmap without being overly distracted**
- One strategy is to **have dedicated resources on the engineering team who handle support**, typically an on-call engineer who rotates weekly to manage inbound requests
- In the early days of getting Dropbox adopted by Enterprise customers, **we allocated three developers specifically to handle all support requests from Enterprise customers**. This focused approach helped unblock frustration and ensure that customer issues were addressed effectively. By organizing teams in this manner, we were able to **strike a balance between addressing support needs and maintaining progress on core development projects** ”

How should CTOs approach fighting for engineering resources with the CEO/CFO when the budget is tight?

- “ It's a tough problem, often seen as Engineering vs. Finance; **engineering can feel like a mysterious black box to the CEO/CFO**
- As the CTO, **fostering discussions about engineering priorities and how that maps back to the broader goals** of the organization is essential for **building empathy and understanding of your resourcing needs**. CTOs need to be the owner of engineering budget and understand how that maps back to business value, manage dependencies, and communicate how revenue maps back to resource allocation
- Rather than coming in with last-minute requests, it's **more effective to approach it as an ongoing dialogue**. The responsibility falls on the CTO to effectively communicate what teams are working on and the ROI of those projects in terms that align with the broader business objectives ”

Source: Interview with Matt Eccleston, member of the ICONIQ Growth Technical Advisory Board
Trademarks are the property of their respective owners. None of the companies illustrated have endorsed or recommended the services of ICONIQ. Insights from companies not part of ICONIQ Growth's portfolio.

Org Health

A detailed look at homegrown talent, attrition rates, diversity and more.

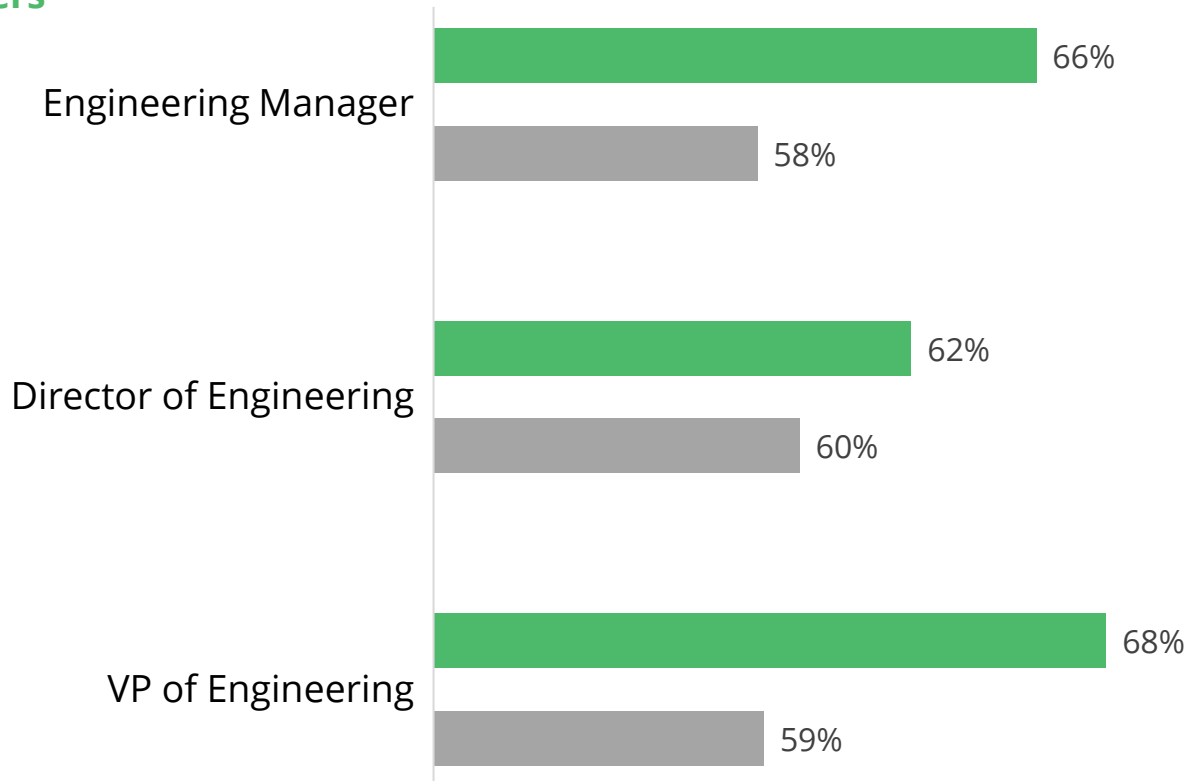
Top performing companies place a larger emphasis on homegrown leadership

What % of your engineering leadership is homegrown vs. hired?

Average of Responses

Top Performers¹

Others



A higher homegrown engineering leadership may be beneficial due to:

- **Deeper business understanding:** Homegrown leaders typically have a deeper understanding of the company's products, technology, business evolution, processes, and customers, allowing them to make more informed decisions
- **Cultural alignment:** Leaders who have grown within the company are likely more aligned with its culture, values, and goals, which can lead to better decision-making and execution

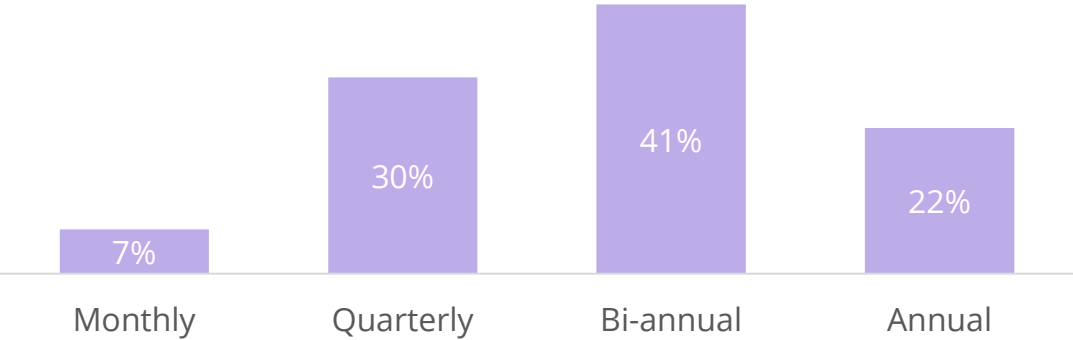
This may also be correlated but not causal: In top-performing companies, it's easier to retain and promote top-performing hires rather than having to look elsewhere.

Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

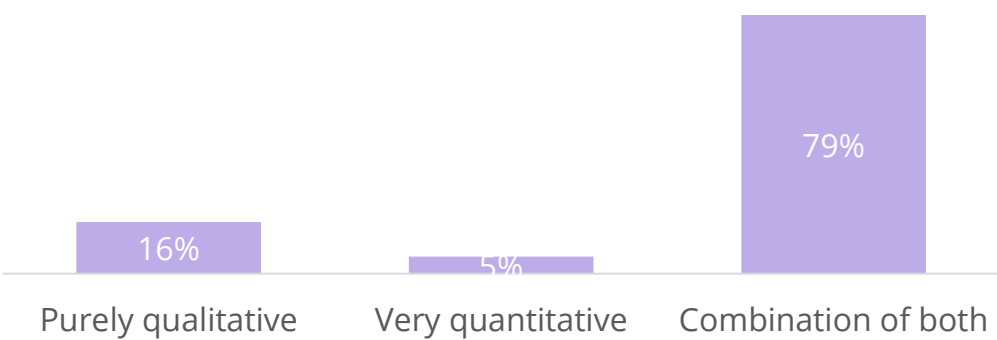
1. Top performers have ARR > \$10M, 2022 YoY Growth > 50%, and Annual Net Dollar Retention > 120%

Most companies conduct performance reviews on a bi-annual cadence and assess performance based on a combination of quantitative and qualitative metrics such as story points, number of PRs, and autonomy

How often do you formally evaluate engineering (IC) performance?
% of Respondents



How is performance evaluated for engineers?
% of Respondents



Commonly Used Evaluation Metrics

Qualitative		Autonomy		Productivity		Collaboration & Communication
		Velocity and completion time		Number of PRs, commits, and bugs		Story points completed

While some companies have started to leverage quantitative metrics for performance evaluations, it is important to note that these metrics are **never viewed as standalone performance indicators and usually assessed in comparison to median performance** to identify any potential performance issues. We generally do not recommend evaluating engineers purely based on development velocity metrics as **these can be easily manipulated and incentivize the wrong behaviors**.

Spotlight: Performance Management for Engineering Teams



Joseph Mosby
Director of Engineering

We have four core pillars that we assess in performance management conversations:

- **Delivery:** Are employees demonstrating effectiveness in completing tasks and launching valuable products?
- **Domain expertise:** Are employees developing the required specific knowledge and skillset to succeed in their roles?
- **Collaboration:** Are employees exhibiting strong written and verbal communication skills, given the fully remote work environment we operate in?
- **Growth mindset:** Are employees adapting to changes as the company evolves and our priorities shift?



WRITER

Waseem AlShikh
Co-founder, CTO

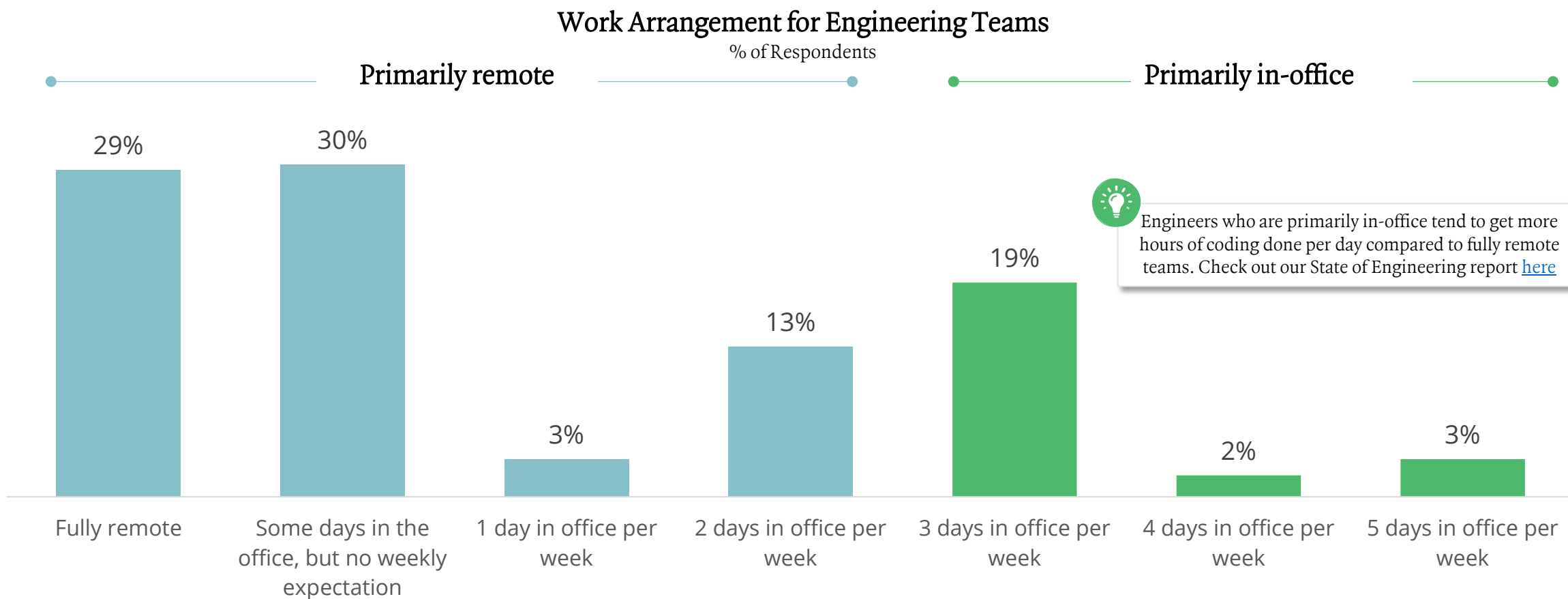
- We assess **various quantitative metrics** such as: **number of critical projects they deliver on** and **number of bugs** produced in order to **encourage building higher-quality products rather than a "build fast, break things" mentality**. At our stage of growth, we want engineers to spend more time on the code and make sure the features they ship are **thoroughly tested and high quality**
- **Career paths:** We have levels L1-L7 for engineers and do not require engineers to become people managers in order to advance. All engineers, regardless of level, are involved in writing code
- **Variable compensation:** We have standard pay structures and engineers do not receive standardized bonuses. That said, we may choose to award bonuses for specific projects

Source: Interviews with Joseph Mosby and Waseem AlShikh

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76% of respondents have engineering teams that now operate with a remote-first office arrangement; however, this presents challenges for engineering leaders managing distributed teams

As covered in our 2022 report [Engineering in a Hybrid World](#), distributed workforces have fundamentally changed how engineering teams collaborate with each other. The majority of respondents now operate with a remote-first hybrid arrangement.

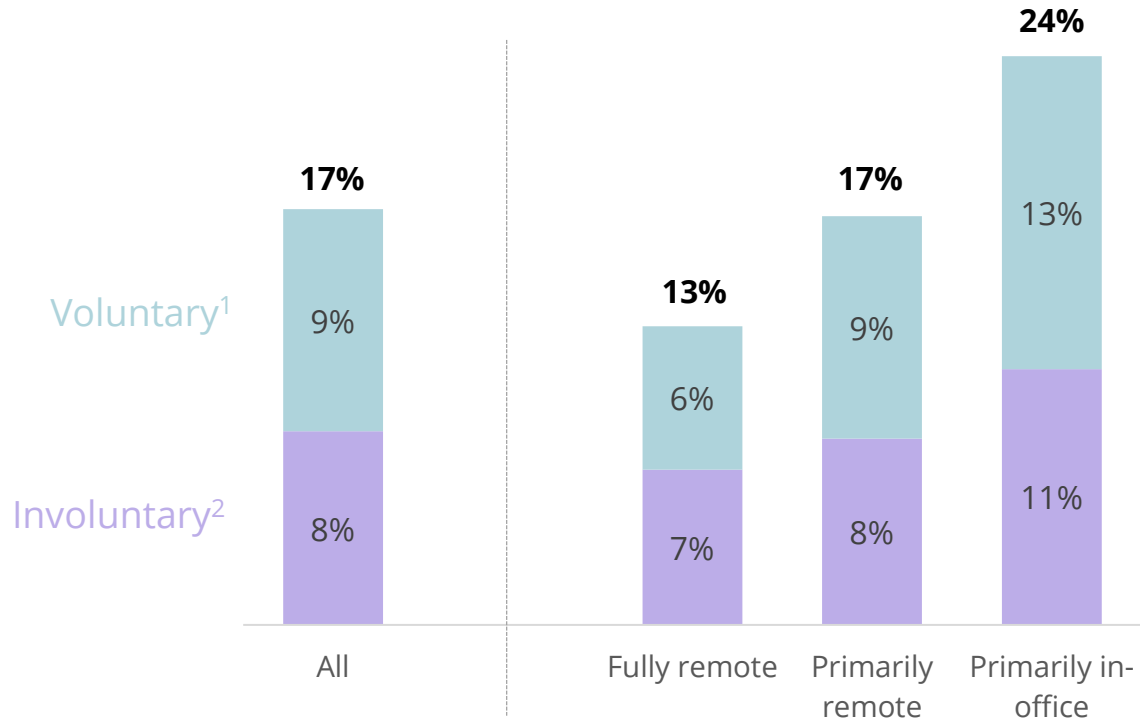


Source: ICONIQ Growth CTO Survey (December 2023, n-size = 202)

While challenging to manage in terms of performance and collaboration, fully remote organizations have lower average attrition rates, perhaps due to the flexibility provided to engineers

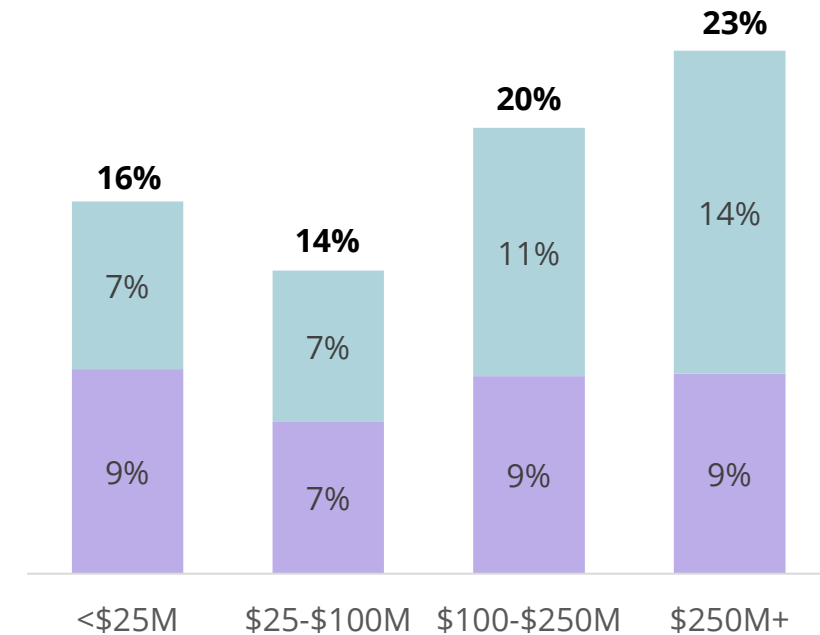
Average annual attrition rate for IC engineers

Average by Workforce Arrangement



Average annual attrition rate for IC engineers

Average by Revenue Range



Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

1. Voluntary attrition refers to cases where the employee chooses to leave the company

2. Involuntary attrition refers to cases where the employer initiates the separation

Spotlight: Engineering culture and org structure



 **DevRev**

Manoj Agarwal
Co-founder & President



Our hiring philosophy is quite contrarian. We hire everyone as a “Member of the Technical Staff” with no specified level and title. We have a Technical committee that observes them during the first 6-10 months, assesses their level of contributions and skills, and decides on their title based on that assessment. This has been perceived as very fair by employees, and as a result we see an attrition rate of that is lower than the industry average.



Building a Customer-centric Engineering Culture

- At my previous company Nutanix and now at DevRev, we want to **ensure that our developers interact with customers on a regular basis**. As such, we have them **visit customer sites with our sales team and sit in with customer support during calls, or - occasionally, even to look at and respond to customer support tickets**
- This approach allows our **engineers to truly empathize with our customers**. As a result of our customer-centric culture., we have achieved a 90+ Net Promoter Score (NPS)
- In addition, because the engineers are in such close contact with customer problems, they end up **knowing the impact of their work and feeling motivated by that as opposed to feeling detached from the core problems** they have to build for
- We want engineers to always ask themselves: **“Is what I’m working on good for our customers?”** If the answer is not “Yes”, that means that they are not prioritizing their work correctly



Org Structure

- We are opposed to a hierarchical structure and try to operate as a flat organization. We don’t have **any first-line managers or project managers**
- We have a **pod structure with typically 10 people on average**. Technical Leads run the pods and we also have a PM that is aligned to each pod
- Our **DevOps, QA and PRE** (performance, reliability and experience) **teams work with our pods**



Source: Interview with Manoj Agarwal (2024)

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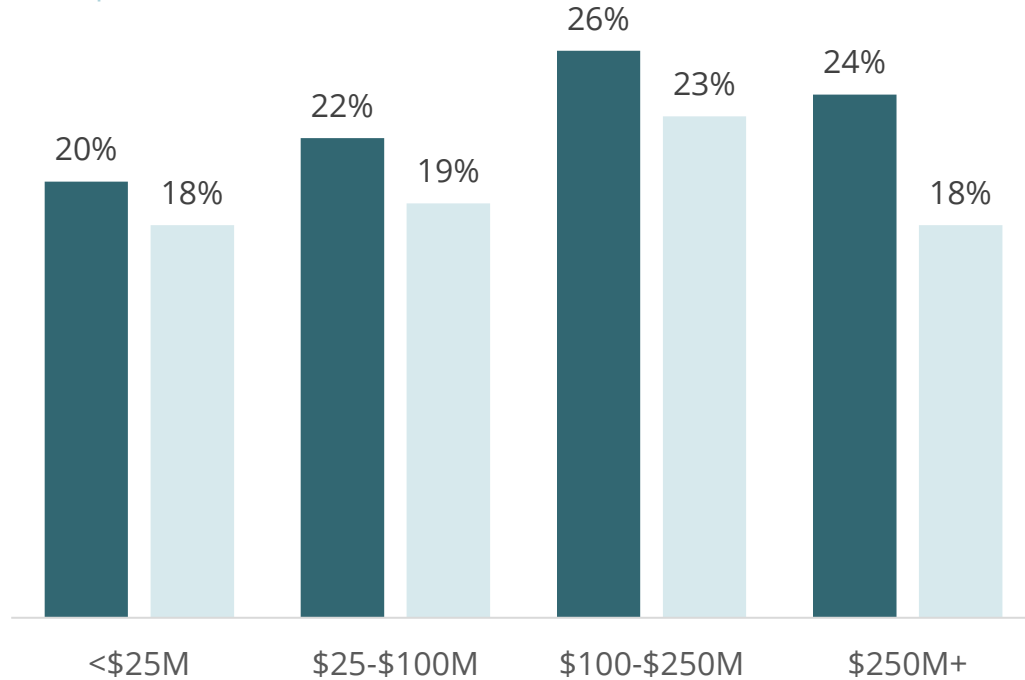
Diversity on engineering teams has remained a challenge for most companies as only ~20-30% of ICs are female or BIPOC¹. Diversity within Leadership roles is even lower than in IC roles, regardless of scale

What % of your R&D organization identifies as female?

Average by Revenue Range

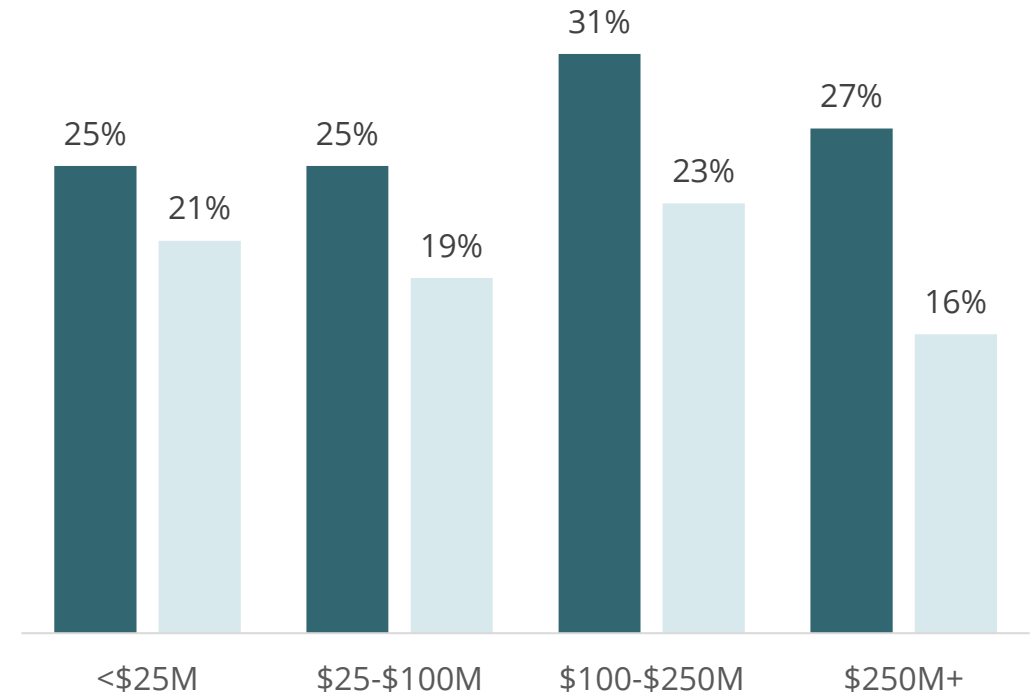
Individual Contributor

Leadership



What % of your R&D organization are BIPOC¹?

Average by Revenue Range

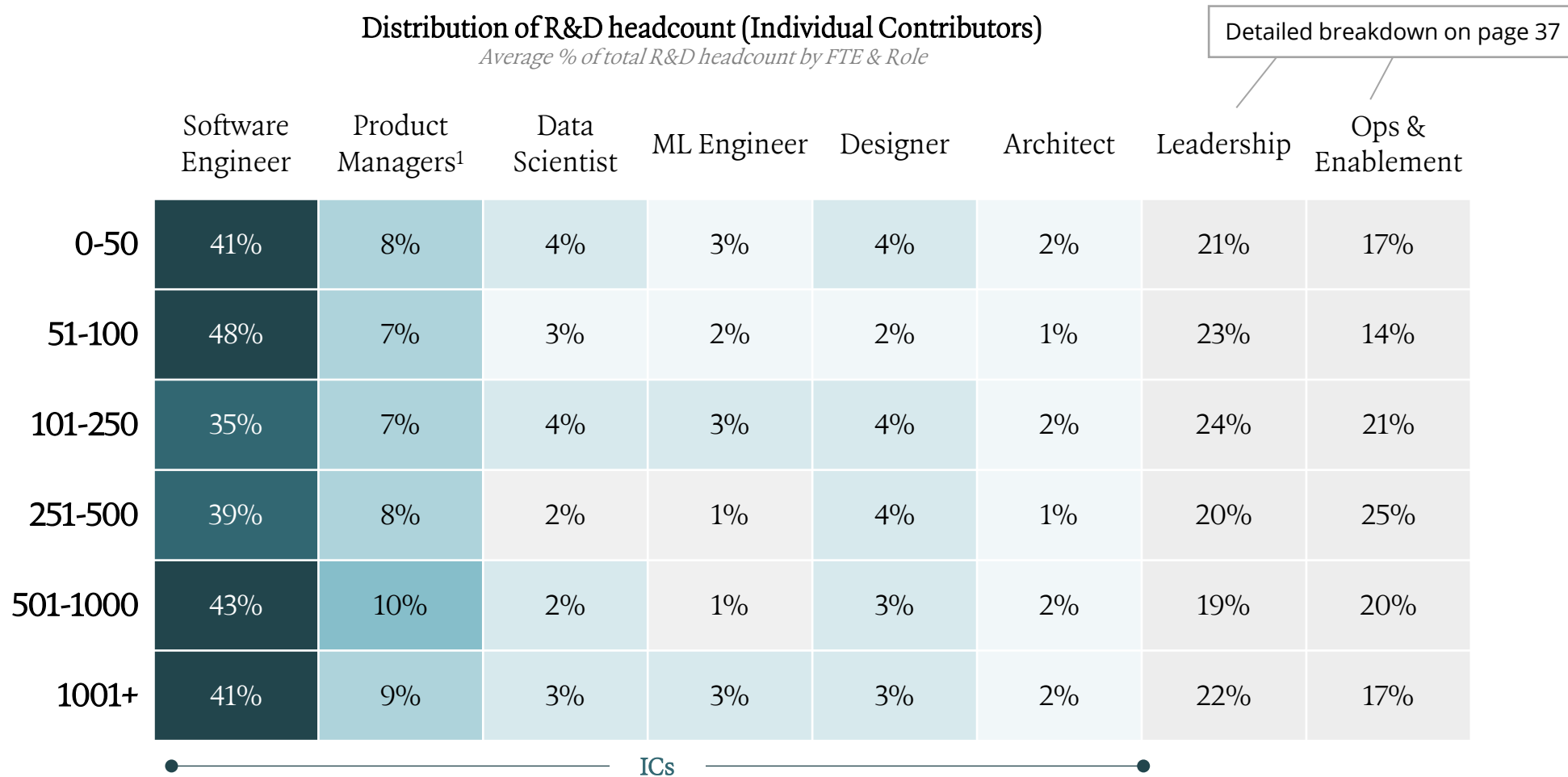


Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

¹ Black, indigenous, and other people of color

Appendix

Software Engineers and Engineering Managers¹ generally make up ~50% of R&D headcount, regardless of size of R&D organization



Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

1. Includes Associate Product Manager, Product Manager, Sr. Product Manager, Product Owner

As companies scale past ~100 R&D FTEs, they tend to invest more heavily on FTEs dedicated to infrastructure

Distribution of R&D headcount (Leadership and Ops & Enablement)

Average % of total R&D headcount by FTE & Role

Detailed breakdown on page 36

	Engineering Director+ <i>Director and above¹</i>	Product Director+ <i>Director and above²</i>	Engineering Manager	Infrastructure ³	Tester / QA Engineer	Project Manager	Other ⁴	Individual Contributors
0-50	7%	5%	9%	9%	4%	2%	2%	62%
51-100	6%	3%	14%	8%	3%	2%	1%	63%
101-250	7%	5%	12%	15%	3%	2%	1%	55%
251-500	6%	5%	9%	13%	6%	3%	3%	55%
501-1000	4%	4%	11%	12%	3%	4%	1%	61%
1001+	7%	5%	10%	12%	2%	2%	1%	61%

● — Leadership — ●● — Ops & Enablement — ●

Source: ICONIQ Growth CTO Survey (December 2023); Survey n-size = 202

1. Includes Director of Engineering (i.e. second-line manager), Head / VP of Engineering, and Chief Technology Officer

2. Includes Director of Product, Head / VP of Product, and Chief Product Officer

3. Includes DevOps (3-4%), Platform Engineers (3-5%), Infrastructure and Operations (1-2%), Site Reliability Engineers (1-2%), Security Ops (1-2%)

4. Includes Business Analyst, and all other Product and Engineering roles

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Other Research from ICONIQ Growth Portfolio Analytics

The ICONIQ Growth analytics mission is to empower our portfolio and network with **proprietary insights that inform business operations and strategy**

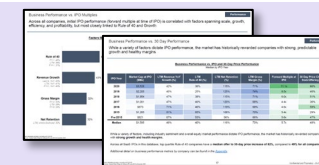
SaaS Topline Growth & Operational Efficiency

- Our annual report on the data behind scaling a B2B SaaS business: we answer key questions on how these companies scale quickly and efficiently and explore what we believe to be early indicators of long-term success
- *Data source: Quarterly financial and operating data from the ICONIQ Growth B2B SaaS portfolio*



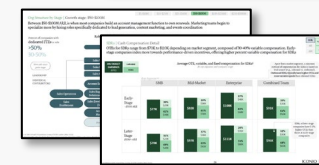
IPO Preparedness & Performance

- Our annual software, consumer, and healthcare IT IPO reports answer key questions across several major topics related to successfully planning for an executing an IPO
- *Data source: Public filings for IPOs from 2013 to now*



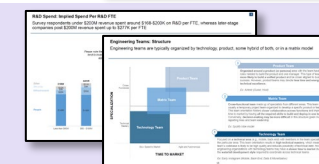
Go-to-Market Series

- Our annual report on the state of go-to-market, spanning topics across building go-to-market teams, compensation, and reporting best practices
- *Data source: Proprietary survey of 200+ GTM executives*



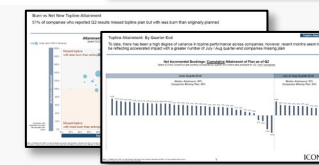
Engineering Efficiency

- Our annual report in collaboration with the ICONIQ Growth Technical Advisory Board on the data behind high-functioning engineering organizations
- *Data source: Proprietary survey of ICONIQ Growth portfolio and broader network*



*Quarterly Recaps

- Real-time insights into performance and attainment across top- and bottom-line forecasts, how key performance metrics have been impacted by the current market environment, and how companies are adjusting plan and strategy in response
- *Data source: Quarterly attainment and budget data from and proprietary surveys of the ICONIQ Growth portfolio*



Select research shown. We invite you to explore additional resources on our [ICONIQ Growth Insights page](#).

*Certain studies have restricted circulation. Please reach out to iconiqgrowthinsights@iconiqcapital.com to request access.

Other Research from ICONIQ Growth Leadership Analytics

Executive hiring is the final frontier within the modern organization that is yet to see a proliferation of data. Despite having data to guide nearly every other business decision, CEOs and Founders have heretofore been forced to rely on anecdotal evidence. **ICONIQ Growth Leadership Analytics helps de-risk hiring decisions by empowering CEOs and Founders with executive hiring data:** we study every leadership hire between founding and IPO at high-caliber SaaS companies to create a series of first-of-their-kind playbooks that help guide decision-making across the entire company lifecycle.



Chief Marketing Officer Study: Part 1 & Part 2

- Quantitative analysis of the most prevalent – and most successful – operational backgrounds and qualifications for Heads of Marketing at private SaaS companies, segmented by Growth Stage



Chief Revenue Officer Study: Part 1 & Part 2

- Quantitative analysis of the most prevalent – and most successful – operational backgrounds and qualifications for Heads of Sales/CROs at private SaaS companies, segmented by Growth Stage



Chief Product Officer Study: Part 1 & Part 2

- Quantitative analysis of the most prevalent – and most successful – operational backgrounds and qualifications for Heads of Product at private SaaS companies, segmented by Growth Stage



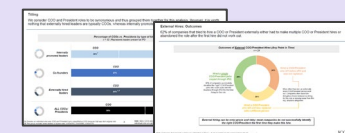
Chief Financial Officer Study

- Quantitative analysis of the most prevalent – and most successful – operational backgrounds and qualifications for Heads of Finance at private SaaS companies, segmented by Growth Stage



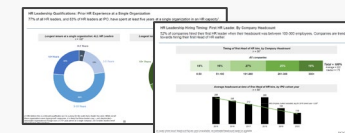
*President & Chief Operating Officer Study

- Examination of the advantages and challenges of having a COO and/or President role



Chief People Officer Study

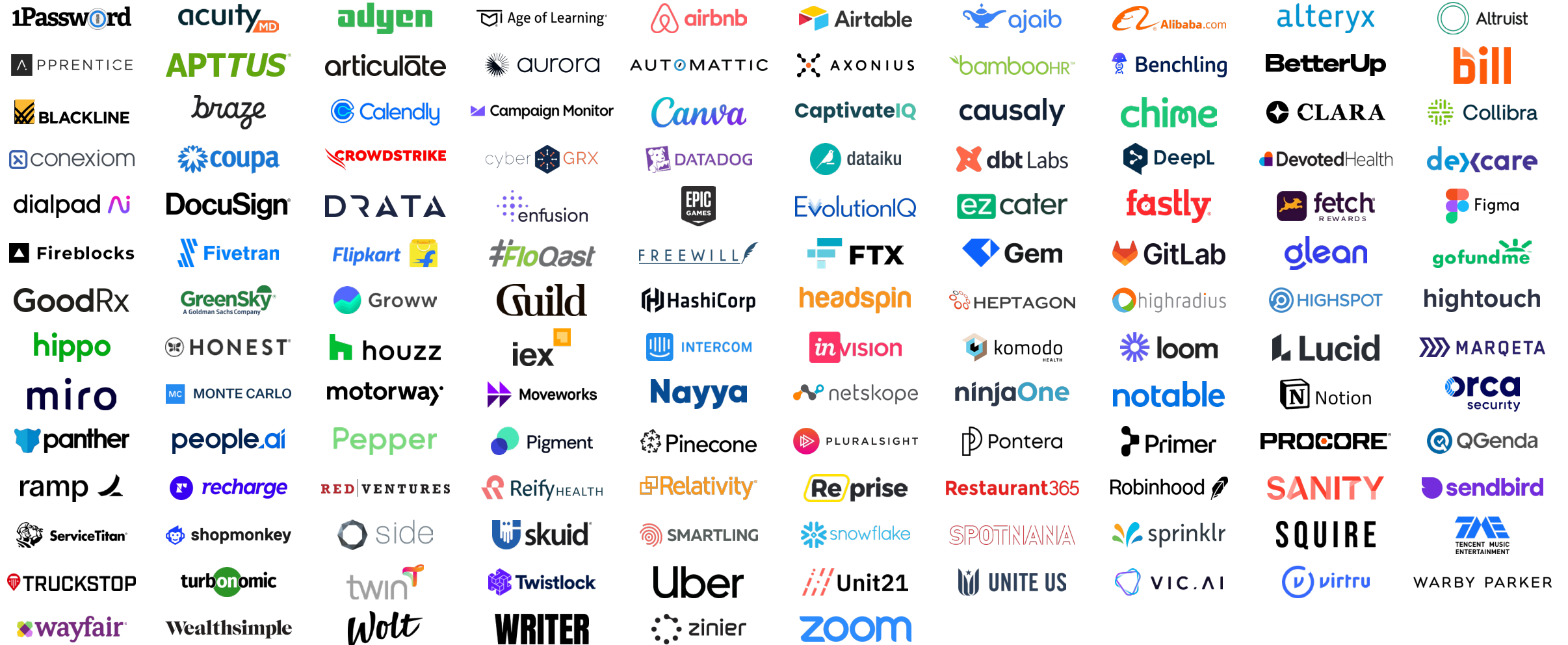
- Quantitative analysis of the most prevalent – and most successful – operational backgrounds and qualifications for Heads of People at private SaaS companies, segmented by Growth Stage



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