



# 2021 Observability Forecast

Seizing the power of observability as a data-driven, daily practice for engineers at every stage of the software lifecycle to deliver great digital experiences.



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# The Case for Modern Observability

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Today's world is powered by modern, digital experiences. From connecting with family, friends, and co-workers to shopping, entertainment and virtual doctor's meetings, customers, employees and partners expect things to just work—quickly, easily and securely.

The quality of the digital experiences you deliver—and the resulting success of your business—depends on empowering your engineers with a data-driven approach to planning, building, deploying and running great software.

Ask any engineer and they'll tell you that any monitoring tool can get surface-level data and put in a pretty dashboard, but it's useless if it doesn't empower them to get past the what to uncover the why.

Despite the promises and because digital experiences are built on thousands of microservices, today's monitoring tools require engineers to spend an unreasonable amount of time stitching together siloed data and switching context between a patchwork of insufficient analysis tools for different parts of the tech stack—only to discover blindspots because it's too cumbersome and too expensive to instrument their full estate.

And even then, engineers get stuck at what's happening, instead of being able to focus on why it's happening.

This all comes at significant cost to your business—in shipping delays, slow responses to outages, poor customer experiences and time wasted that your engineers could have spent on the higher priority, business-impacting and creative coding they love.

Until now. The art and science of planning, building, deploying and running software is changing, forever...

# The Move to Modern Observability

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Welcome to the modern era of software observability.

Fueled by an acceleration to digital as a result of the global pandemic, there is an increasing focus within organizations of every sizes in every industry and geography to deliver exceptional digital experiences for their customers, employees, partners and vendors to win in the marketplace.

True, full-stack observability has become mission critical to this work and to the success of every modern business.

Engineers at the world's most innovative organizations, from the Fortune 100 to hyper-growth startups, are making observability a data-driven approach and daily practice at every stage of the software lifecycle. The result is improved uptime and reliability, increased operational efficiency and exceptional customer experiences that fuel company innovation and growth.

This first annual Observability Forecast looks at the perspectives and opinions of nearly 1,300 software engineers, developers, IT leaders and executives in the Americas, Asia and Europe. This analysis of the formal research study, conducted online via survey during the months of May through June 2021, delivers new insights, learnings and best practices for observability.

This report provides compelling reasons about why it's time to make the shift to modern observability so that you can plan, build, deploy and run great software.

# Key Insights

IT leaders and engineers are under more pressure than ever to ship new features faster, minimize downtime and resolve issues before they impact customers. Their roles have become mission critical, and it's clear that modern observability is the only path forward for planning, building, deploying and running software:



## Observability is mission critical

- **90%** believe observability is important and strategic to their business.
- **94%** believe observability is important to their role.
- **81%** of C-Suite executives expect to increase their observability budget in the next year with **20%** expecting budgets to increase significantly.



## Observability delivers clear, positive business impact

- **91%** of ITDMs (IT Decision-Makers) see observability as critical at every stage of the software lifecycle with especially high importance on planning and operations.
- **42%** believe observability helps support their digital transformation with **23%** noting it helps deliver better digital experiences for end users.
- **27%** cite faster deployment with observability.
- **25%** believe observability helps organizations be more cost effective.



## There is massive opportunity to expand and mature the observability practice

- Survey respondents confirmed outages are on the rise and that monitoring is fragmented; Unsurprisingly, **72%** noted having to toggle between at least two, and **13%** between ten different tools to monitor the health of their systems.
- **23%** of respondents said that they cannot gain end-to-end observability at all.
- **74%** of respondents note room to grow their observability practice with only **26%** claiming a mature observability practice in their business.



## Organizations lack a strategy or roadmap for implementation

- Only **50%** are in the process of implementing observability.
- Top barriers to success include lack of resources (**38%**), skills (**29%**), understanding of the benefits (**27%**) and strategy (**26%**).
- This explains why **60%** of respondents still monitor telemetry data at the application level, leaving massive data unmonitored in their software stack.



## Observability for Kubernetes and containers is expected to grow rapidly

- While the majority of ITDMs (**88%**) are exploring Kubernetes and containers, **25%** of are conducting research, **25%** are evaluating, **29%** are in development and just **10%** are in production; **40%** expect to be in production within 3 years.
- **83%** noted an observability platform is effective for Kubernetes monitoring.



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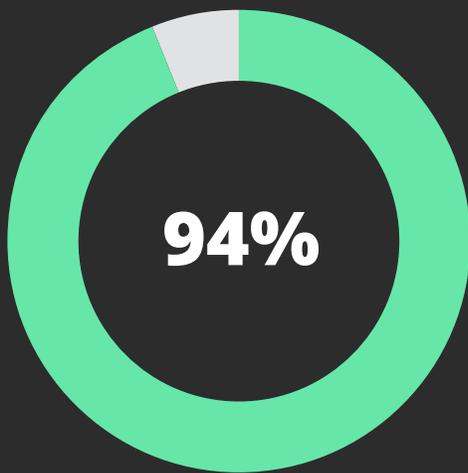
Observability for Kubernetes and containers is growing rapidly.



## Observability is mission critical

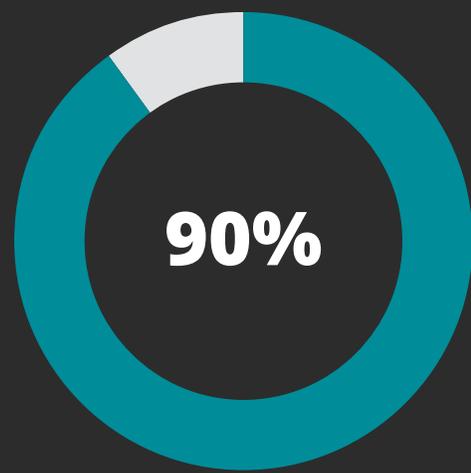
Nearly all respondents believe observability is important and strategic to their business, and even more believe it is important to their role—so much so that they expect investment in observability to accelerate in their organization.

Respondents believe observability is important to their **role**



ITDMs say observability is important to my role

Respondents believe observability is important to their **business**



ITDMs say observability is important to my organization



More than **60%** of respondents from New Zealand said they were somewhat familiar or not familiar with observability; this number was even greater in Japan. Interestingly those very familiar or experts came from Indonesia, India and Australia.

Finally, **97%** of UK engineers and IT professionals are aware of observability.



# Observability budgets are on the rise as a top priority

Because observability is considered mission critical, the majority of respondents expect their organization's investment in observability to increase in the next year.

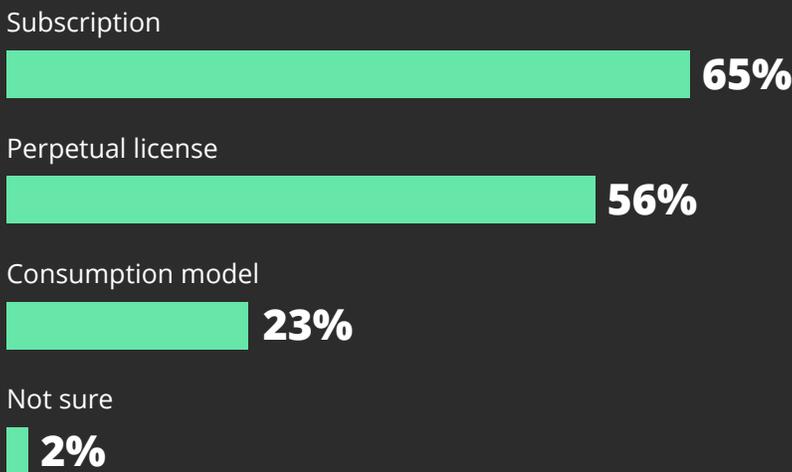
Currently, most organizations allocate **20%** or less of IT budgets to observability tools.

**80%** of organizations practicing observability...

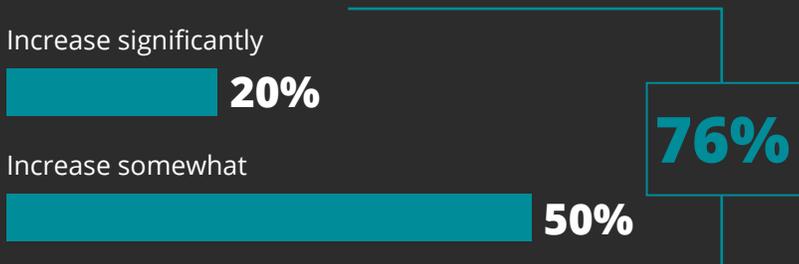


...only allocate **20%** or less of their budget

Most popular pricing models for observability.



More than three-quarters will increase their observability budgets in the next year.



## Consumption pricing models deliver more bang for your buck.

As ITDMs look to ramp their observability capabilities, it's important to get maximum value from the investment. The move to modern observability includes a shift from legacy subscription- (currently **65%** of respondents) to modern consumption-based pricing (currently **23%** of respondents) that aligns an observability vendor's interests with customer success.

With modern consumption pricing, organizations get full visibility into all of their telemetry—metrics, events, logs and traces—and only pay for what they use.

Because it is easy to understand, predict and scale, consumption pricing finally ends the hassles and frustrations of:

- Upfront guesswork on usage and the shelfware and overage penalties that often follow.
- Counting agents, creating custom metrics and worrying about surprise/hidden fees.
- Data sampling or visibility compromises into your data.



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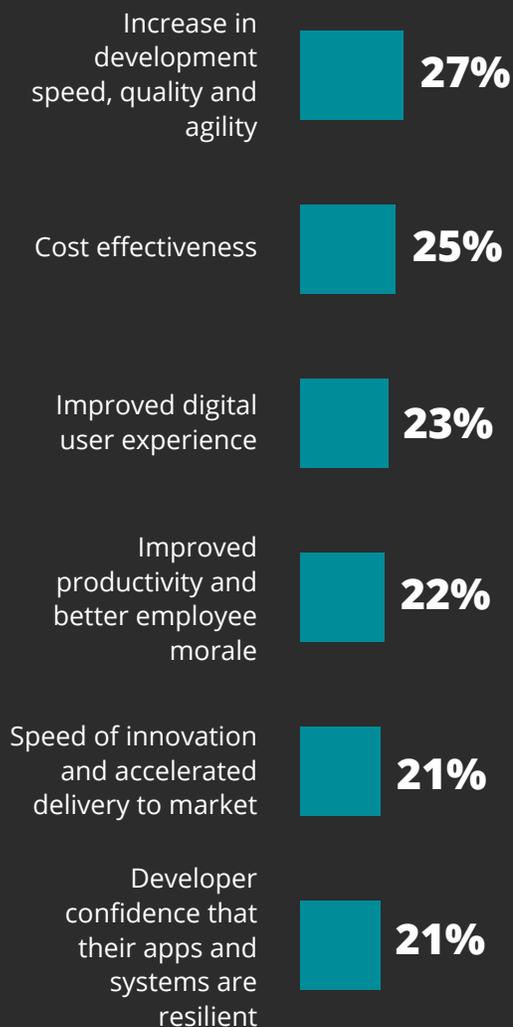


# Observability delivers clear, positive business impact

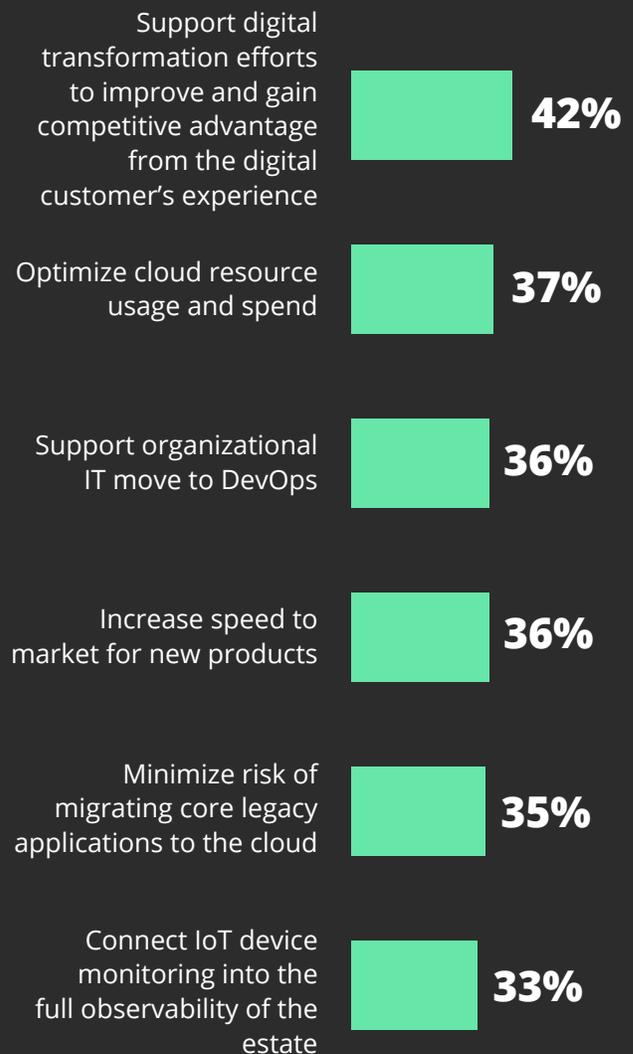
Respondents see a breadth of observability benefits, from improved development speed, quality and agility, to cost effectiveness, improved user experiences and better employee morale.

They're using observability across the entire software lifecycle—plan, build, deploy and run—to achieve business objectives, from supporting digital transformation to optimizing cloud usage and increasing speed to market.

Top benefits of observability:  
top 3 ranking



Use cases of observability:  
global



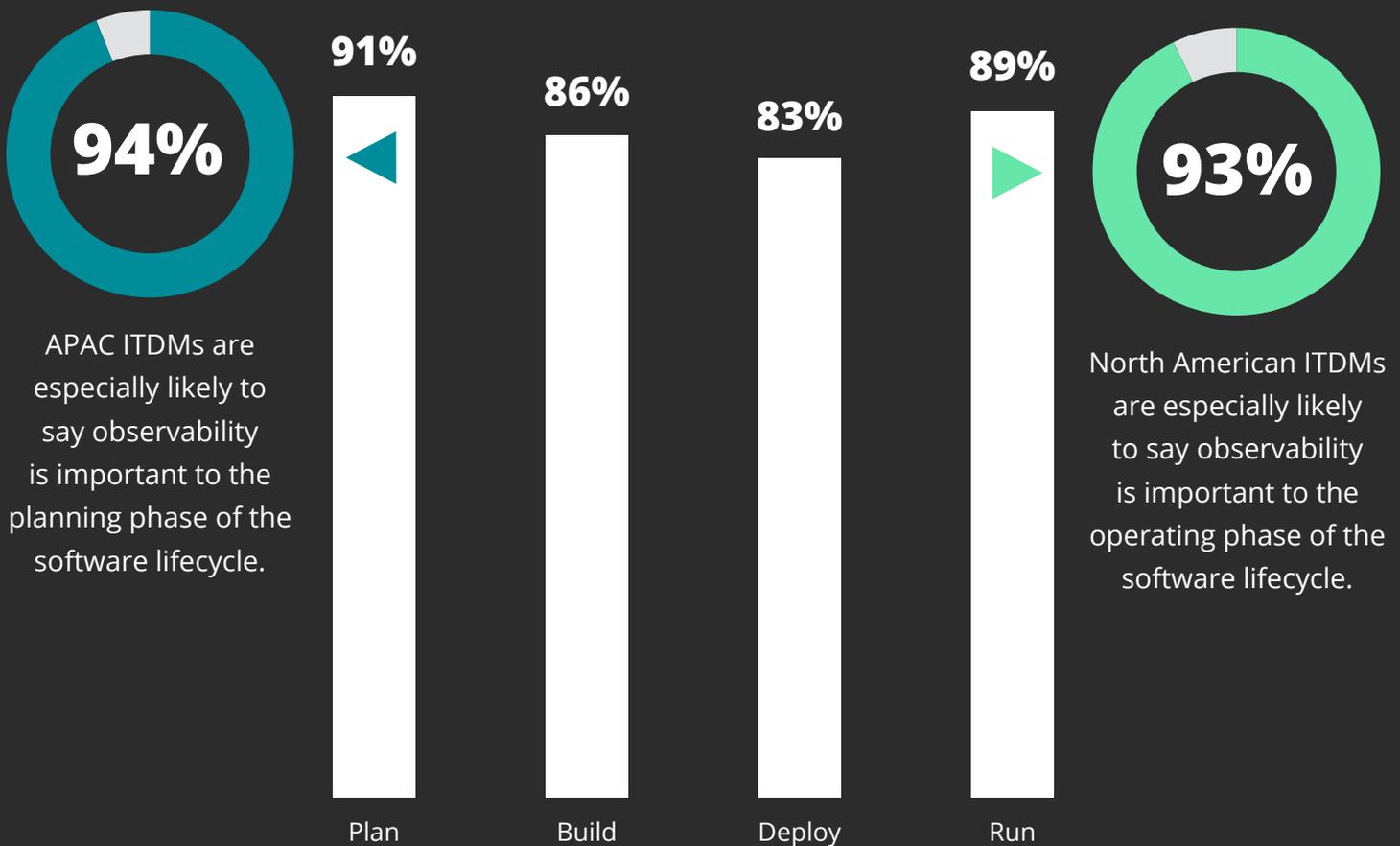


# Observability is important at every stage of the software lifecycle

More than **eight-in-ten** ITDMs consider observability important at every stage of the software lifecycle with especially high importance in planning and operations.

Organizations that standardize on one observability platform are **2x more likely** to have a dedicated SRE or platform team with organizations that still manage multiple monitoring tools with a dedicated IT operations team.

The importance of observability at each stage of software lifecycle (extremely + very important): global





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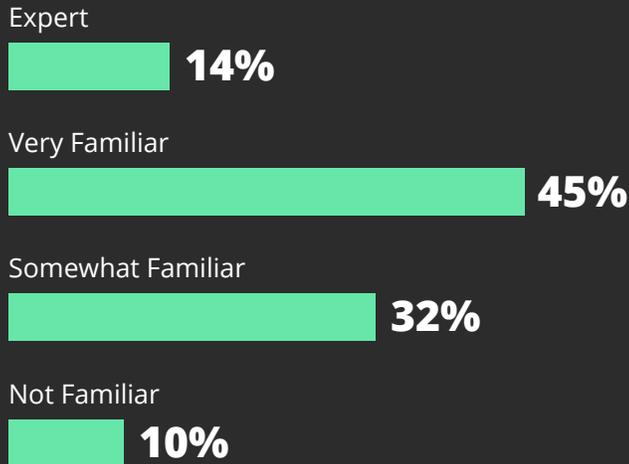
Observability for Kubernetes and containers is growing rapidly.



# Massive opportunity to expand and mature the observability practice

While most respondents are familiar with observability, there's a huge gap in the practice. This is especially true in achieving end-to-end observability with all data in a single platform and fullstack analysis tools that empower engineers to get past the what to uncover the why.

## Familiarity with observability

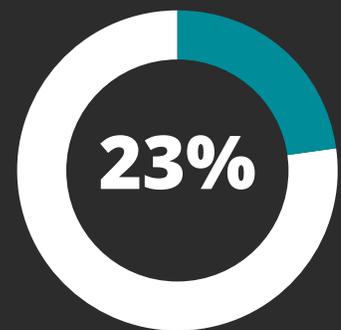


*"Modern observability empowers software engineers and developers with a data-driven approach across the entire software lifecycle, bringing all telemetry—events, metrics, logs and traces—into a unified data platform. With powerful full-stack analysis tools that enable them to plan, build, deploy and run great software, observability delivers improved digital experiences that fuel innovation and growth."*

...However, actual practices are falling short.

## ONLY

- 26%** have a mature observability practice.
- 18%** of organizations discover incidents through a single observability platform.
- 53%** of those with an observability practice in place can instrument all parts of their stack.
- 10%** have Kubernetes and containerization in production now.
- 43%** unify all telemetry data in one place.



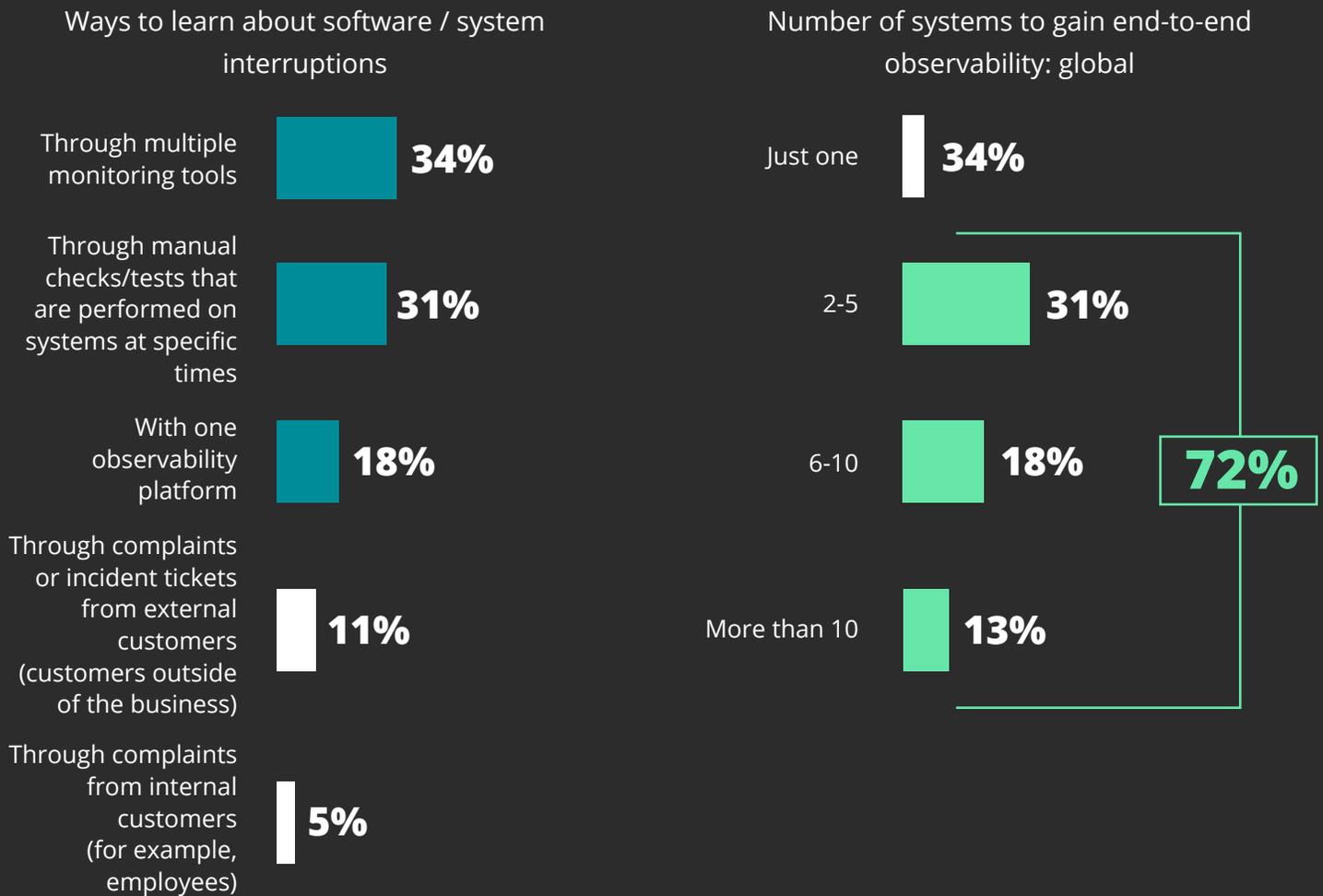
of respondents note their teams do not have end-to-end observability.



# Engineers are forced to stitch together siloed data and switch between a patchwork of insufficient analysis tools

Outages are on the rise, but monitoring is fragmented: Engineering teams are wasting business-critical time learning about incidents through multiple tools and manual checks.

They are forced to rely on 2+ tools, or are unable to achieve full-stack observability throughout their business.



With one observability platform, organizations are **two times more likely** to have a dedicated SRE team compared to respondents using multiple monitoring tools.

**3 in 4 (74%)** of respondents note room to grow their observability practice with only **26%** claiming a mature observability practice in their business.



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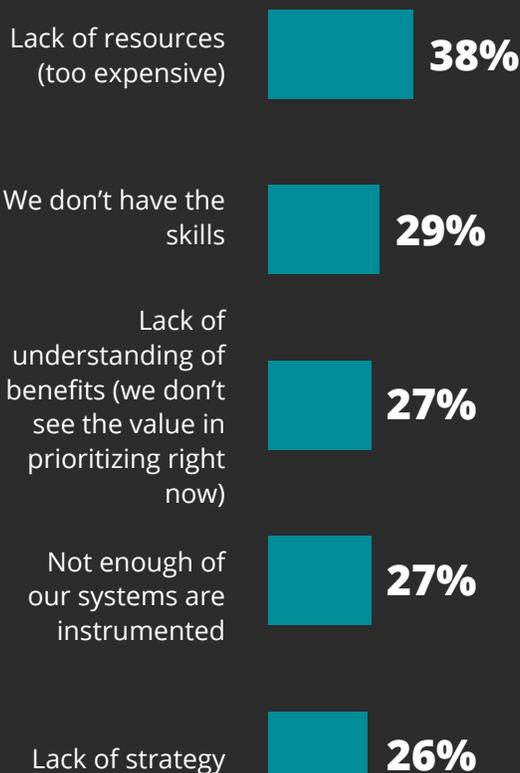


# Businesses struggle with skills, understanding and strategy to maximize the value of their observability practices

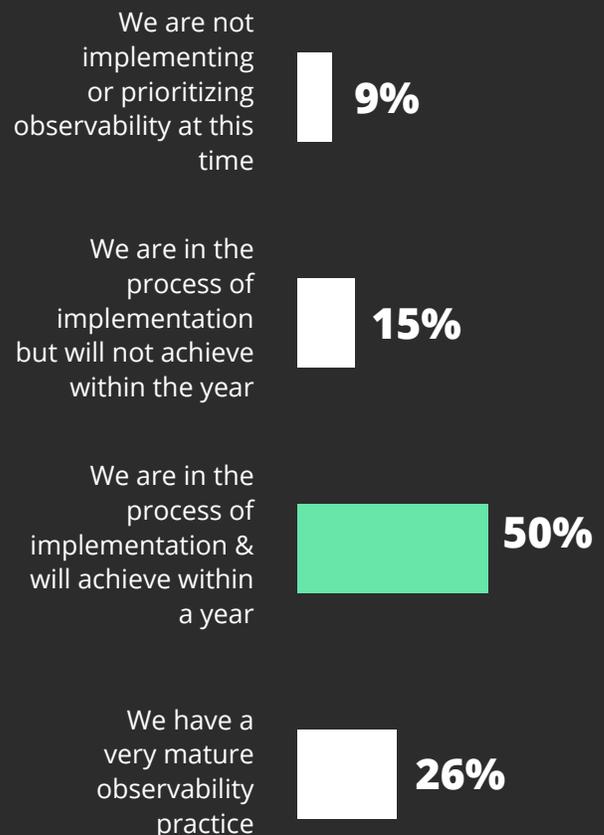
While many organizations see the value of observability, they have been slow to implement the practice in their businesses.

Common barriers to success include lack of resources, strategy, skills and understanding, as well as a limited number of systems that are instrumented.

Barriers to achieving observability:  
global



Implementation of an observability practice:  
global and region



**60%** of the survey respondents still monitor telemetry data at the application level, leaving massive amounts of data untouched in the software stack.



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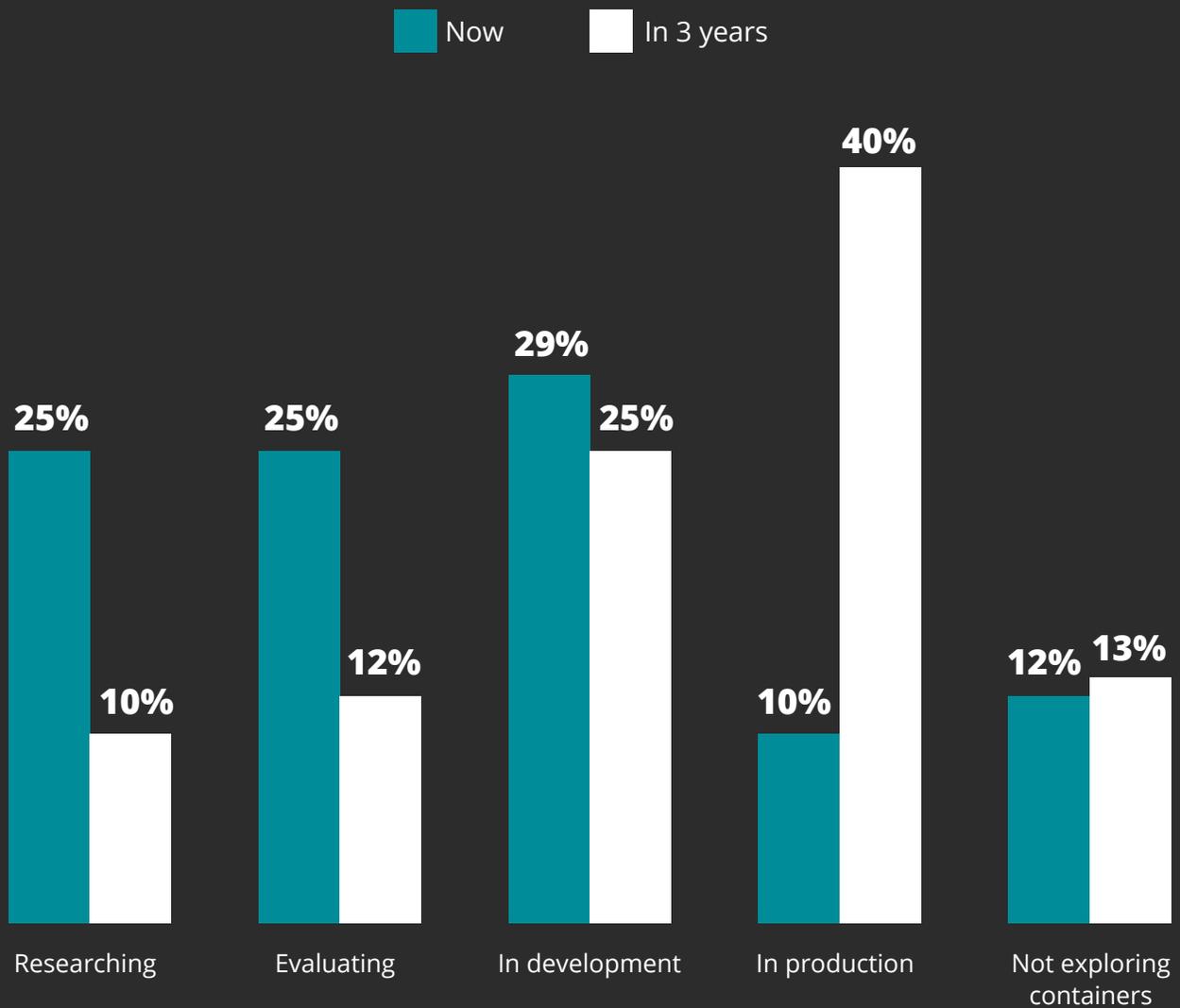


# ITDMs hope for Kubernetes and containers to become the norm

While the majority of ITDMs (**88%**) are exploring Kubernetes and containers at some level right now, only **10%** are in production.

There is hope amongst ITDMs that this will change, with **four in ten** aiming to be in production in 3 years.

Adoption of Kubernetes and containers: global

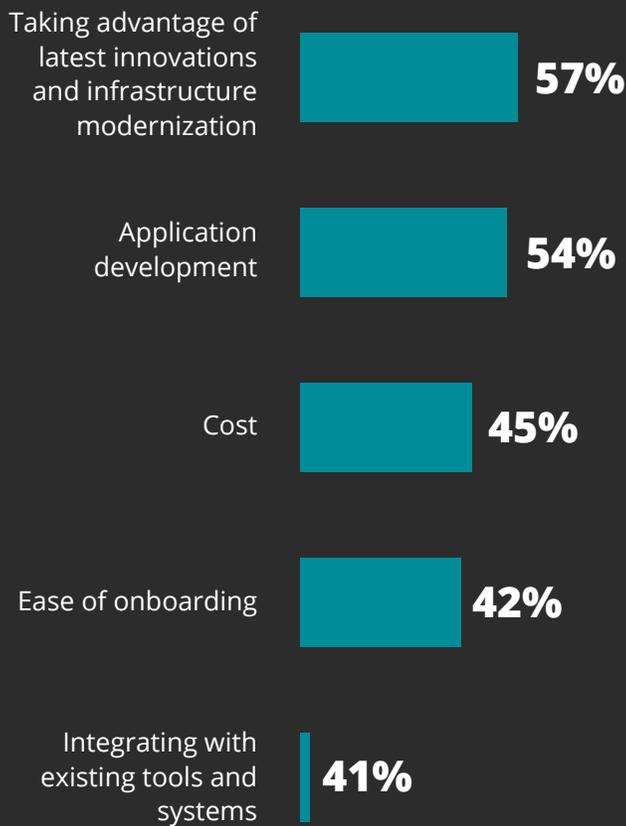




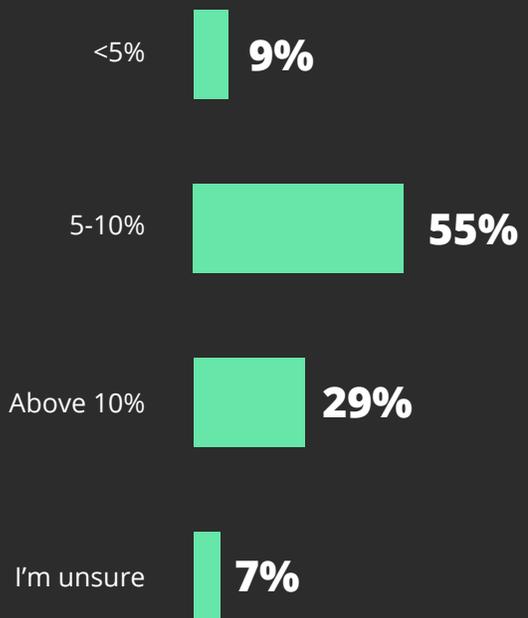
# Kubernetes and containers set for continued growth as open source popularity expands

Open-source software adoption is becoming commonplace as engineers benefit from the latest innovations, application development, cost and other factors. It's no surprise that **55%** of IT departments allocate between **5%-10%** of their budgets, and **29%** allocate **10%+** for these tools.

Primary reasons for open-source software Adoption: global



IT budget allocation for open-source tools: global

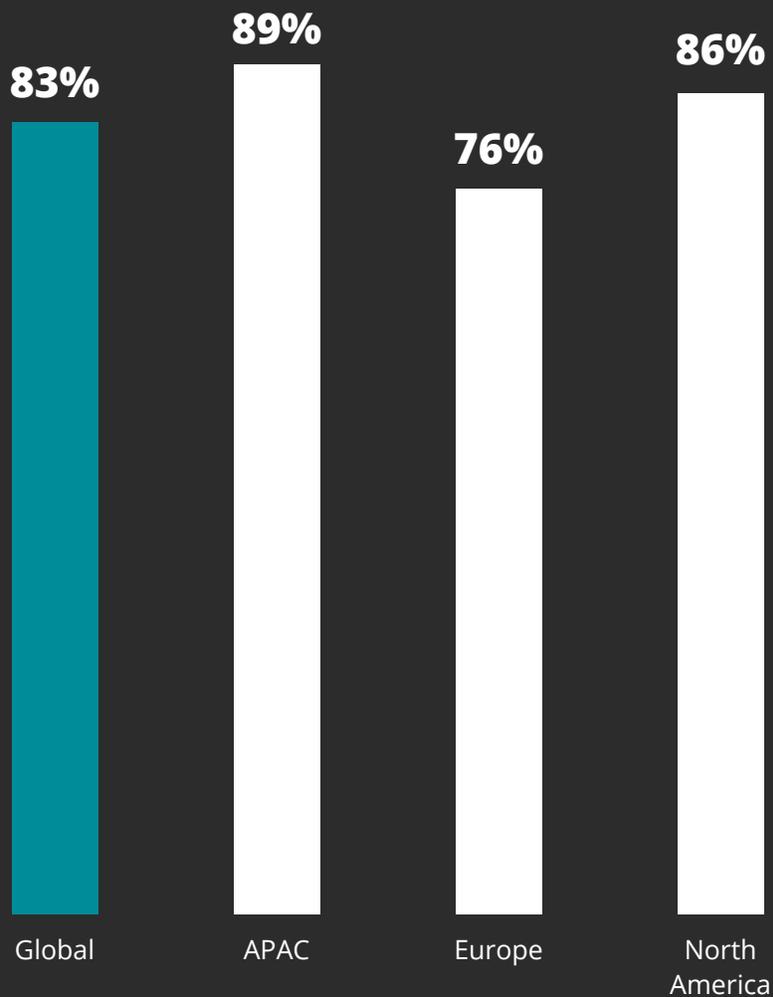




# Observability in Kubernetes and containers is gaining adoption globally

The best Kubernetes observability strategy hinges on deploying a solution that can automatically collect and correlate observability data from any and all available sources.

Effectiveness (very + somewhat) of observability platform at delivering Kubernetes monitoring: global and region





# Recommendations: Charting the path to modern observability

Seize the power of observability as a data-driven, daily practice for engineers at every stage of the software lifecycle to deliver great digital experiences.



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# Recommendations: Charting the path to modern observability



## **Adopt a data-driven approach for end-to-end observability.**

Empower your engineers with a complete view of all telemetry data—including events, metrics, logs and traces—so they don't have to sample data and compromise their visibility into the tech stack or waste time stitching together siloed data. That way they can focus on the higher-priority, business impacting and creative coding they love.

## **Consolidate your observability tools into a single, unified platform with powerful full-stack analysis built in.**

Once you have all telemetry in a single platform, empower engineers with industry-leading, full-stack analysis tools so they can get past the what to uncover the why. This improves planning cycle times, reduce change failure rates, increase release frequency and reduce mean time to resolution.

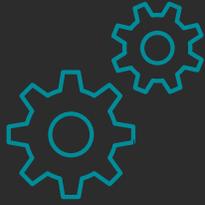
**Expand observability across the entire software lifecycle:** Bring the power of your telemetry to every stage of the software lifecycle so your engineers can plan, build, deploy and run great software, apps and systems that deliver great digital experiences for customers, employees, partners and suppliers.

**Mobilize your IT budget for full-stack observability:** With modern consumption pricing, engineers get full visibility into all telemetry and only pay for what they use. Because it is easy to understand, predict and scale, consumption pricing finally ends the hassles and frustrations of:

- Upfront guesswork on usage along with the shelfware and overage penalties that often follow.
- Counting agents, creating custom metrics and worrying about surprise/hidden fees.
- Data sampling or visibility compromises into your data.

**Uplevel the value of observability to engage your C-suite.** Highlight the benefits of modern observability to achieve your business objectives with your C-suite. Win champions across the executive team by demonstrating how full-stack observability improves uptime and reliability, drives operational efficiency, and delivers exceptional customer experiences that fuel company innovation and growth.

For information on the 2021 Observability Forecast or how modern observability can help your organization plan, build, deploy and run great software, visit [www.newrelic.com](http://www.newrelic.com).



## Methodology

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On behalf of New Relic, the observability company ([www.newrelic.com](http://www.newrelic.com)), CITE Research ([www.citeresearch.com](http://www.citeresearch.com)) conducted an online survey among 1,300 engineers, developers, IT leaders and executives (often referred to as IT Decision-Makers / ITDMs) around the globe from May through June 2021.



## Global reach

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The research was conducted in the following regions:

- Asia (Australia, Hong Kong, India, Indonesia, Japan, Singapore, Thailand, Malaysia, New Zealand, Philippines)
- Europe (France, Germany, Ireland, UK)
- North America (Canada, US)



## Screening criteria

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Respondents were:

- Employed full-time
- In software development or IT
- Using a designated title
- Employed in a company with 50-10,000+ employees
- From a variety of industries