



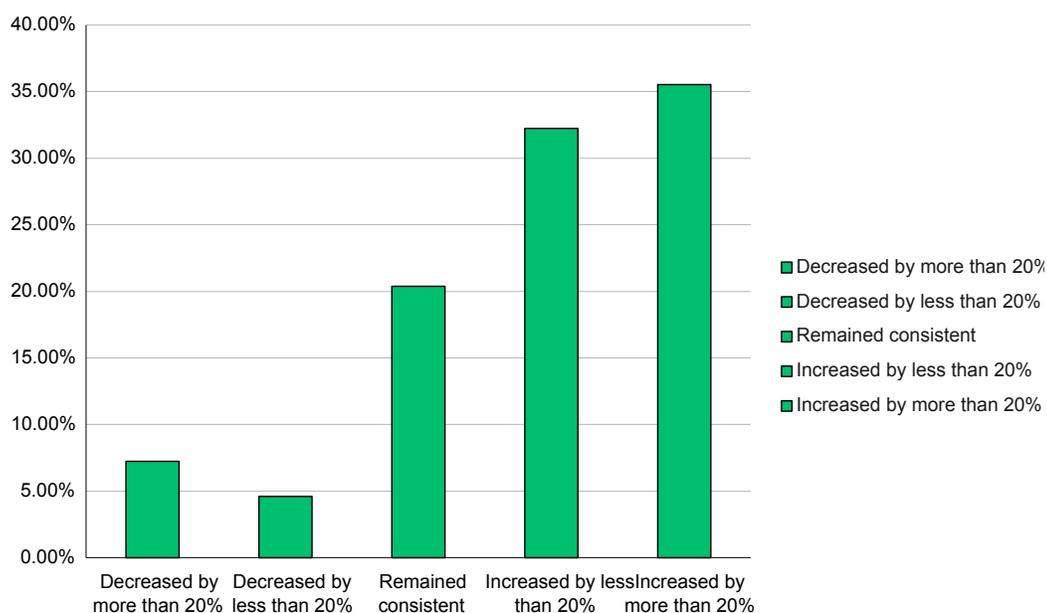
## FINOPS FOR KUBERNETES:

Insufficient – or Nonexistent –  
Kubernetes Cost Monitoring  
is Causing Overspend



For enterprises and startups alike, cloud and Kubernetes-related bills are going up. Over the past year, 68% of respondents reported Kubernetes costs on the uptick; just 12% have lowered their Kubernetes expenses, while 20% have managed to keep costs more or less constant. Among those whose spend increased, half saw it jump more than 20% during the year.

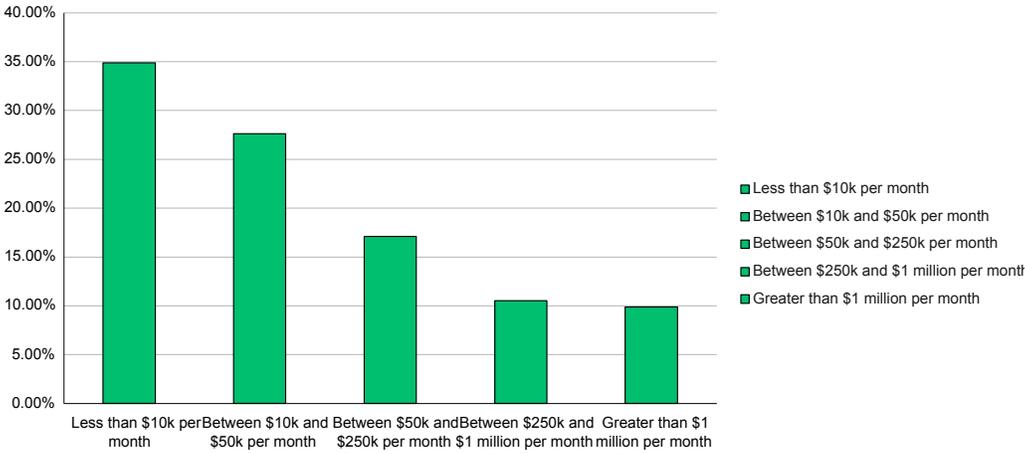
### How much has your Kubernetes-related spend grown in the last 12 months?



The trend is probably no surprise to most: as more organizations adopt cloud native architectures and scale up Kubernetes environments, the associated cloud costs will rise. However, the FinOps for Kubernetes survey uncovered a disconnect between these rising expenses and how well most respondents have been able to accurately and effectively monitor Kubernetes costs, predict those costs, and instill processes that can curtail unnecessary overspend.

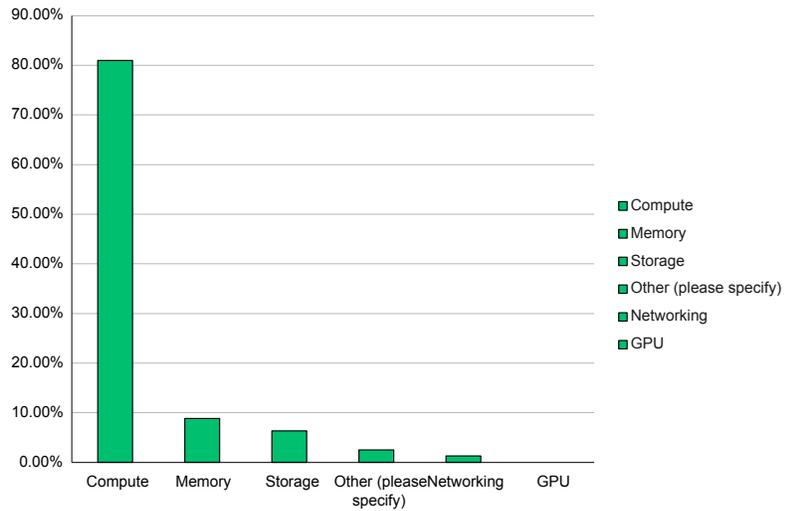
## KNOWLEDGE IS (BUDGET-SAVING) POWER

The more organizations know about their clusters, the more they can optimize them to free up money (while keeping cloud usage stable) or grow their spend with the confidence that they are getting maximized output for their dollar. Whether enterprises on big-budget spends (10% of respondents reported Kubernetes-related bills topping \$1,000,000 per month), startups with bills less than \$10,000 per month (in the case of 35% of respondents), or the sea of businesses in between, the survey showed most can reduce those expenses with a more granular and active Kubernetes cost-monitoring strategy. Most spending came from computing and memory resources (90%). Tenants are primarily associated with namespaces (40%) or labels (25%) to allocate costs.

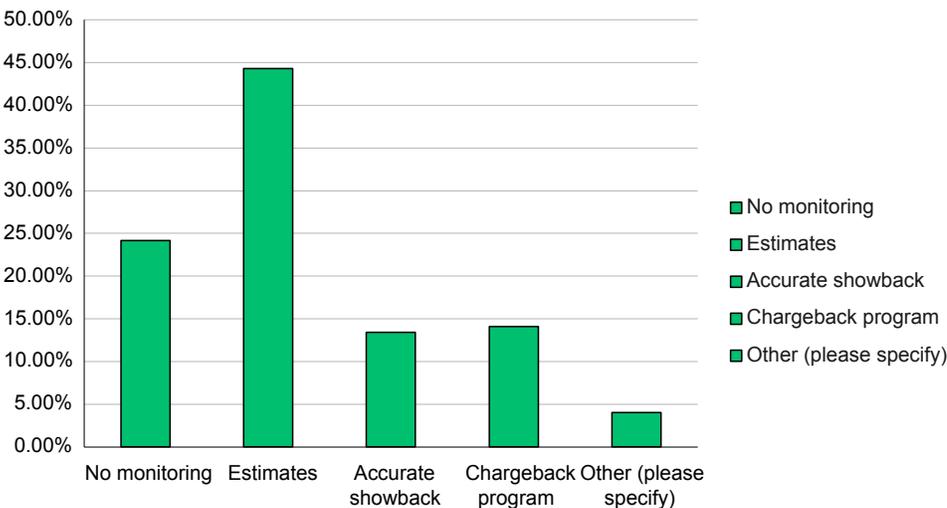


How much is your monthly Kubernetes-related spend?

Where is the majority of your Kubernetes spend?



The vast majority of respondents fell into one of two camps. Either they do not monitor Kubernetes spending at all (24%), or they rely on monthly estimates (44%). A relative minority reported more advanced, accurate, and predictive Kubernetes cost monitoring processes: 13% utilized accurate showbacks, and 14% had a chargeback program in place. Whether spending \$10,000 per month or 100x that, the lack of real-time cost visibility and the insights and actions that organizations can take from that suggests that the majority of organizations leveraging Kubernetes can become significantly more cost-efficient – and do so without impacting performance.



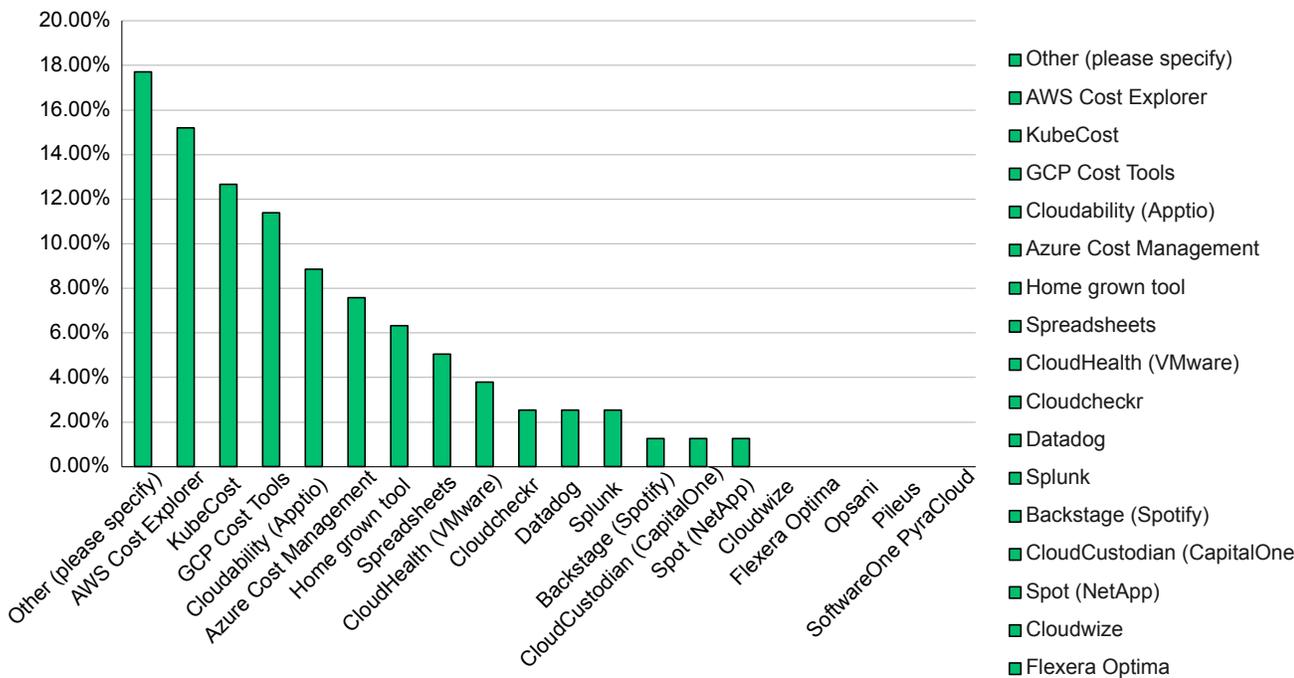
What level of Kubernetes cost monitoring do you have in place?



## Whether cloud-specific or open source, tools are there for the taking

For those respondents who reported active Kubernetes cost monitoring, how they went about it fell across three camps: tools specific to a cloud provider, cross-platform tools, and custom-built solutions. AWS' Cost Explorer was the most popular cloud provider tool (15%), followed by GCP's offering (11%) and Azure Cost Management (8%). The open source cost monitoring tool KubeCost was the most popular solution deployed across platforms – and the only other tool of any kind favored in the double-digits – at 13% of respondents. Finally, organizations going it themselves with homemade solutions (including manually tracking with spreadsheets) tallied 11%.

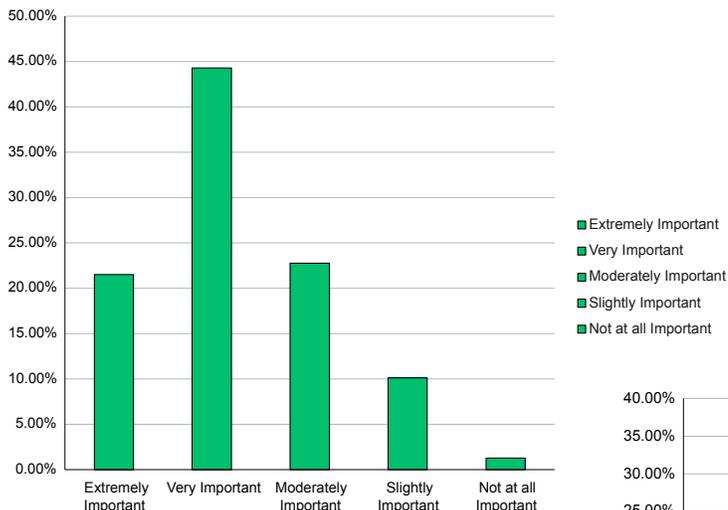
### Which of the following tools are you currently using to monitor Kubernetes spend?



## HOW TO GAIN MORE CONTROL OF KUBERNETES COSTS

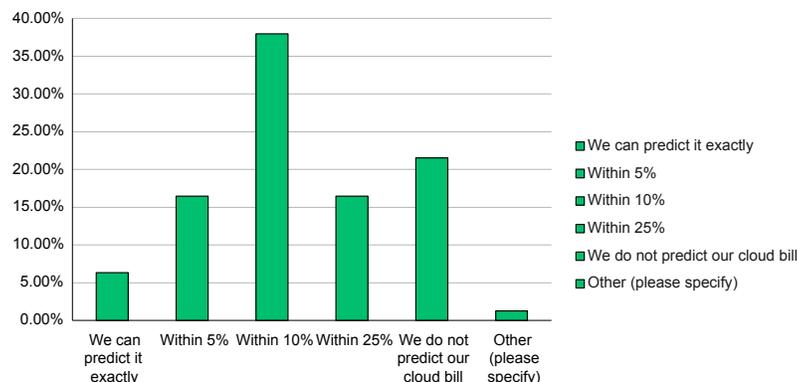
With flexible and customizable tools at their disposal for more actionable Kubernetes monitoring and ongoing optimization, more organizations figure to benefit from a more intentional strategy to understand and control their Kubernetes costs. Particularly as cloud costs continue to rise, instilling better processes now will enable organizations to economize both now and ahead of further scaling where cost efficiencies are even more pronounced.

Almost half of respondents (44%) claimed that predicting cloud bills is very important. However, only 38% of them report that they can predict monthly bills within a 10% margin of error, while 21% do not (or can not) predict their bills at all.



How important is the ability to accurately predict your monthly cloud bill before it arrives?

How accurately can you predict your cloud bill?



Companies should look beyond basic cost estimations that provide limited visibility and insight into how costs can become more streamlined. They should instead seek to allocate costs back to granular environments and projects for showback and chargeback; to view unified spend by combining real-time Kubernetes cluster costs (CPU, memory, etc.) with outside costs (tagged RDS instances, S3 buckets, etc.); to drill down to the node and pod level to optimized persistent volumes; to set budgets for configurable aggregation levels such as by team or application; and to create and automate recurring cost reports to track trends, broken down by namespace.

## ABOUT THE SURVEY METHODOLOGY + RESPONDENTS

CNCF and the [FinOps Foundation](#) surveyed their extended communities during April and May 2021 and received 195 responses. Of these, 75% reported that their organizations use Kubernetes in production, and 16% use Kubernetes in development, test, or PoC, meaning 178 were eligible to complete the full survey.

The survey drew responses from the global cloud native community: 37% of respondents came from Europe, 30% from North America, 18% from Asia, 10% from South and Central America, and the rest from Africa, Australia, and Oceania.

Half of respondents were from organizations with more than 500 employees, and 30% were from organizations with more than 5,000 employees, showing a strong enterprise representation.

The majority of respondents worked at Software/Technology organizations (45%) and Financial Services (16%). Other industries with significant representation were Consulting (8%) and Telecommunications (5%).

The top job functions were SRE/DevOps engineer (34%), software architect (24%), DevOps management (14%), and Engineering management (13%).

This survey was conducted in English.