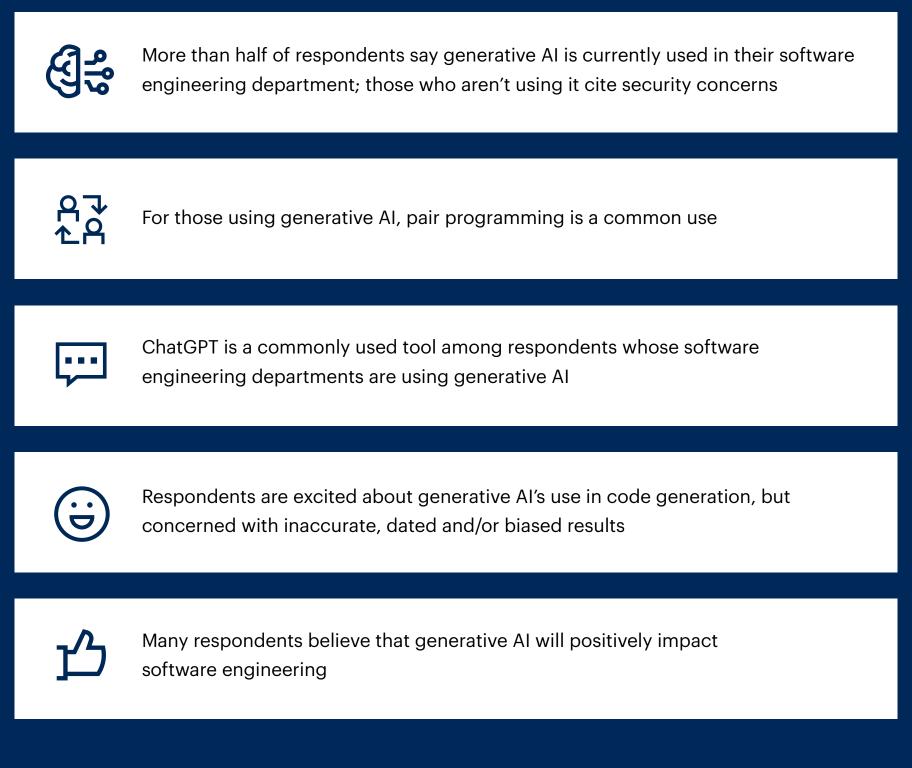
Gartner Peer Community

Generative Al for Software Engineering Teams



Generative AI is trending in the tech world, but how are software engineering leaders making use of the tool? Which use cases are most promising, and which concerns are top of mind?

One-Minute Insights:

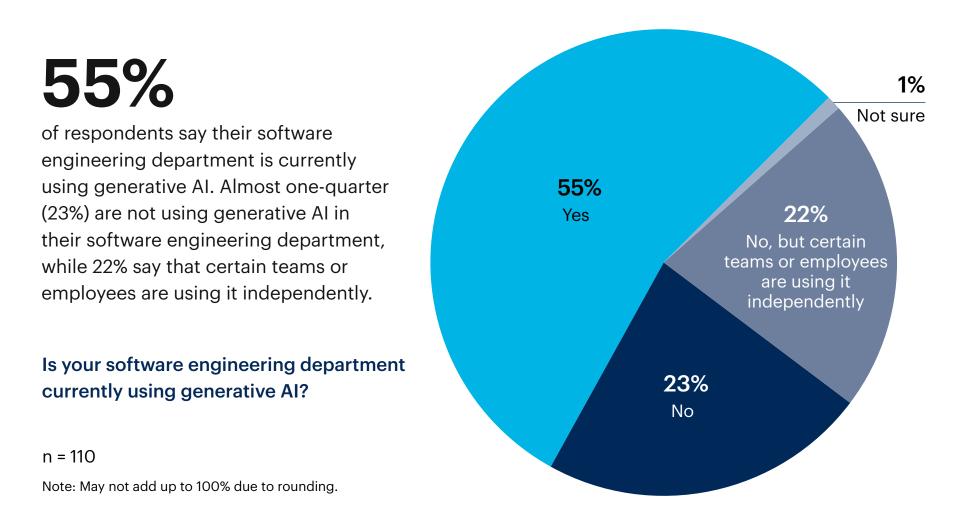


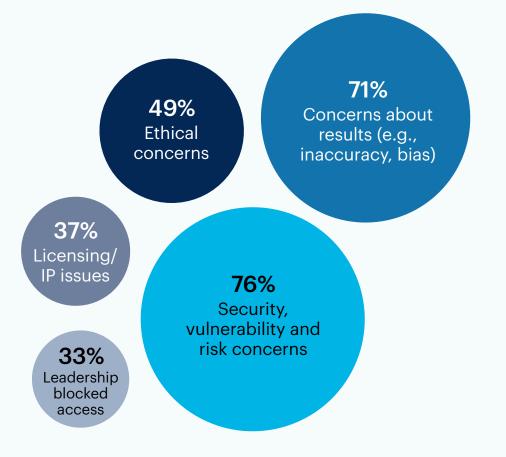
One-Minute Insights on timely topics are available to <u>Gartner Peer Community</u> members. Sign up for access to over 100 more, and new insights each week.

Data collection: Apr 1 - Apr 17, 2023

Respondents: 110 software engineering and IT leaders

More than half of respondents' software engineering departments are currently using generative AI, but those who aren't cite security concerns





Respondents whose software engineering departments are not currently using generative AI (n = 49) cited security (76%) and inaccurate or biased results (71%) as reasons why they're not using the tool on a departmental level.

What are the reasons you aren't using generative AI in your software engineering department? Select all that apply.

Lack of viable use cases **29%** | Insufficient skills on the team **29%** | Cost **6%** | Not sure **0%** | None of these **0%** | Other **0%**

Question shown only to respondents who answered "no" or "no, but certain teams or employees are using it independently" to the question "Is your software engineering department currently using generative AI?"



"Transparency and



"[Generative AI] will help

accountability will help to get more trust on AI."

- Manager, manufacturing industry, 1,000 - 5,000 employees engineers to come up with complex products faster."

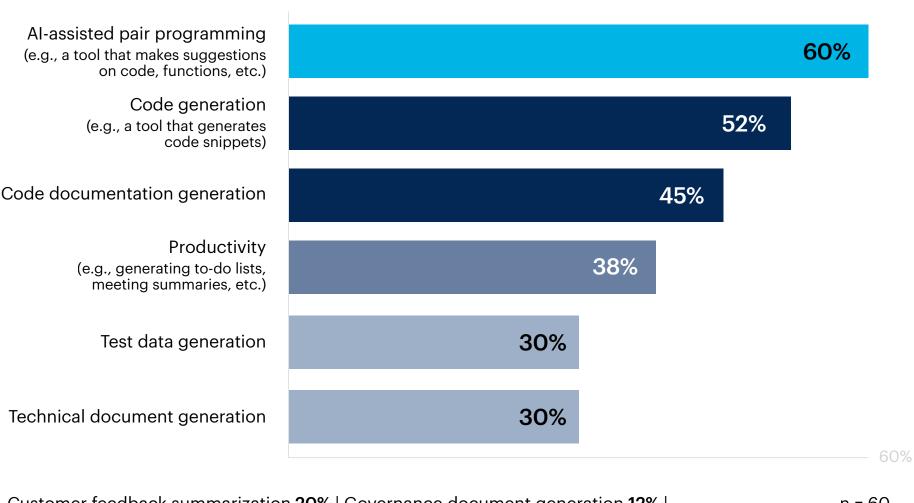
- Director, software industry, 1,000 - 5,000 employees

Question: What is one way that you believe generative AI will impact software engineering in the future?

For those using generative AI, pair programming is a common use and ChatGPT is a common tool

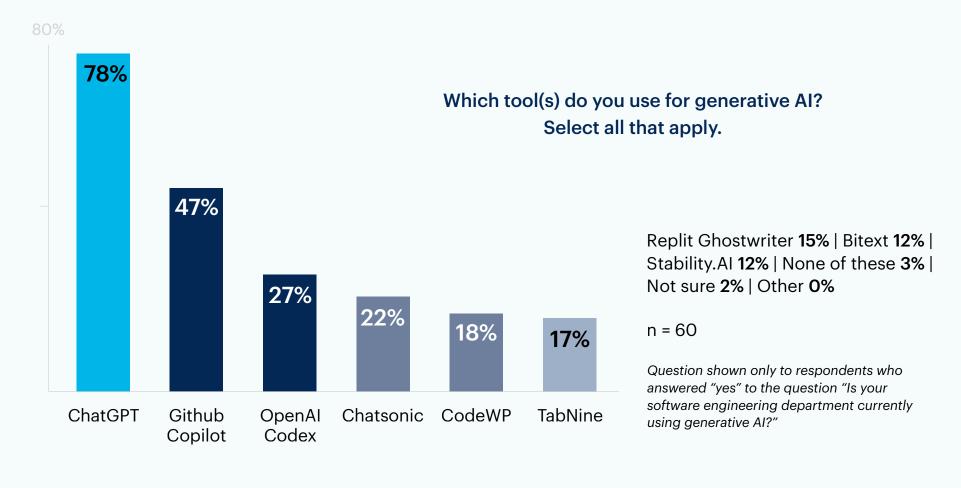
Respondents whose software engineering departments utilize generative AI (n = 60) use it for AI-assisted pair programming (60%), code generation (52%) and code documentation generation (45%).

How do you use generative AI in your software engineering department? Select all that apply.



Customer feedback summarization 20% | Governance document generation 12% | n = 60 Hyperautomation support 12% | None of these 2% | Not sure 0% | Other 0% Question shown only to respondents who answered "yes" to the question "Is your software engineering department currently using generative AI?"

More than three-quarters (78%) of respondents whose software engineering department uses generative AI (n = 60) use ChatGPT for generative AI.

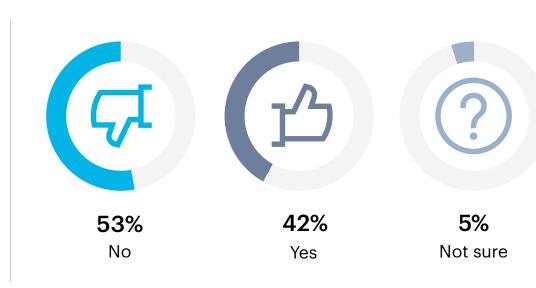


Despite using generative AI in their software engineering departments (n = 60), more than half (53%) of these respondents do not have governance policies in place guiding employees on how to use it.

Do you have a generative AI governance policy in place to guide employees on how to use it?

n = 60

Question shown only to respondents who answered "yes" to the question "Is your software engineering department currently using generative AI?"



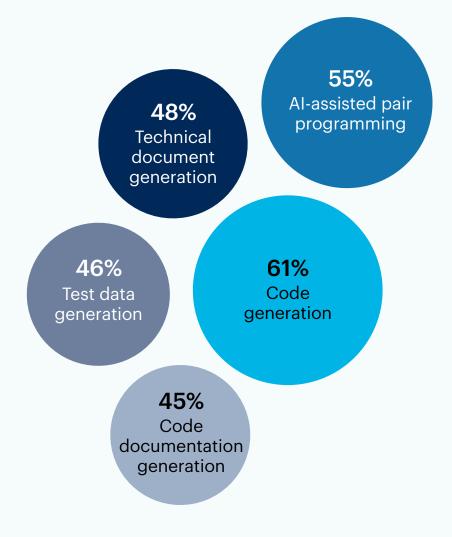


"It will create more volume of new code than we have resources to keep in check."

- Director, manufacturing industry, 1,000 - 5,000 employees

Question: What is one way that you believe generative AI will impact software engineering in the future?

Whether or not their software engineering department uses generative AI, leaders are excited about its use in code generation, but concerned with undesirable results

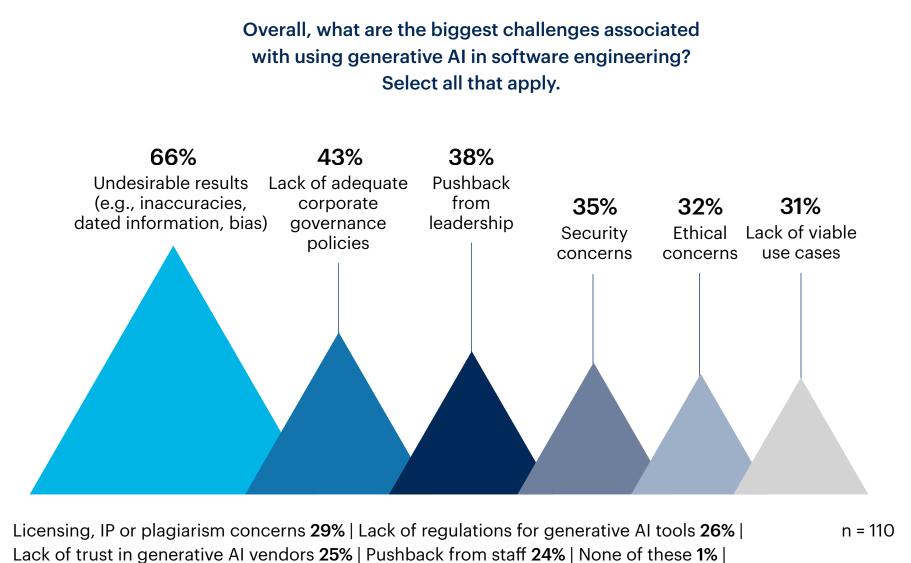


Respondents are most excited about generative AI's use in code generation (61%), AI-assisted pair programming (55%) and technical document generation (48%).

Overall, which use cases for generative AI are you most excited about for software engineering? Select all that apply.

Productivity **35%** | Governance document generation **30%** | Hyperautomation support **25%** | Customer feedback summarization **18%** | There are no promising use cases **4%** | None of these **1%** | Not sure **0%** | Other **0%** n = 110

As for difficulties, respondents identified undesirable results (66%), lack of corporate governance policies (43%) and pushback from leadership (38%) as the biggest challenges associated with using generative AI in software engineering.



I don't have any concerns **0%** | Not sure **0%** | Other **0%**

••••

"I could see that the AI will reduce the efforts involved with coding and will eventually reduce the delivery time. However, the same will be true when companies focus on training the workforce, investing time as well as money."

- Manager, telecommunication services industry, 5,000 - 10,000 employees

•••

"[Generative AI] will help speed up coding — with human intervention after the main work is done by the AI."

- Director, finance industry, 10,000+ employees

Question: What is one way that you believe generative AI will impact software engineering in the future?

Many respondents believe that generative AI will positively impact software engineering and affect staffing and hiring

Almost three-quarters (70%) of	23% Very positive	
respondents believe that		
generative AI will have a		
somewhat positive impact on		
software engineering. 23% believe		
it will have a very positive impact.		
	70% Somewhat positive	
Do you believe that generative AI		
will have a positive or negative		
impact on software engineering?		
	6% Neutral	
0% Very negative		
0% Too early to tell	1% Somewhat negative	
		n = 110

As for the impact on software engineering staffing and hiring, 63% believe generative AI will necessitate training for current staff on how to use it. 59% think that new job roles will be created for generative AI initiatives, and 55% think that management candidates will need expertise in generative AI governance.

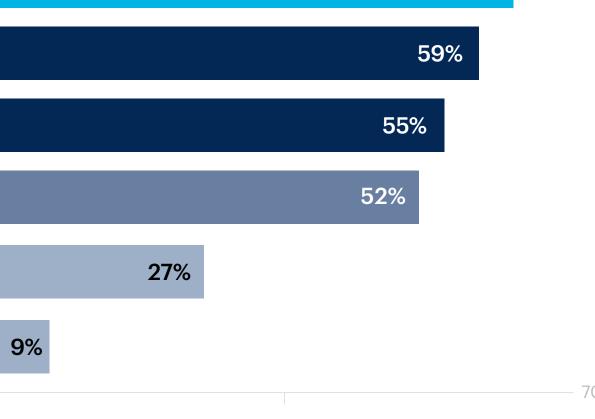
How will generative AI impact software engineering staffing and hiring overall? Select all that apply.

Current staff will need generative AI training New job roles will be created for generative AI initiatives Management candidates will need expertise in generative AI governance

Candidates will be judged based on generative AI experience

Prompt engineers will become sought after Generative AI will not impact software engineering staffing and hiring

Not sure **2%** | Other **0%**



n = 110

63%

••••

*Low-level software engineering jobs will be replaced by AI."
Director, telecommunication services industry, 5,000 - 10,000 employees



"[Generative AI will] increase productivity to a large extent, [and] create a lot of jobs for software engineers. The department will take a more strategic tack. More jobs will be created to develop a new set of human work tasks — many of them of higher value."

- Director, telecommunication services industry, 10,000+ employees

Question: What is one way that you believe generative AI will impact software engineering in the future?

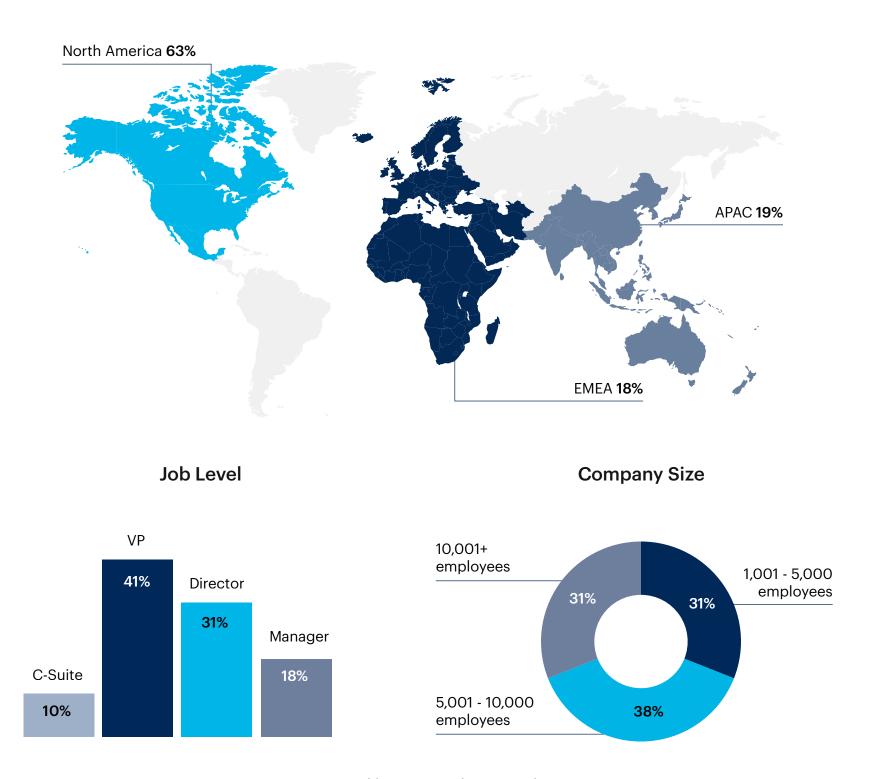


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Respondent Breakdown

Region



Note: May not add up to 100% due to rounding. Respondents: 110 software engineering and IT leaders

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