BOSTON CONSULTING GROUP

State of GenAI across SDLC

Key findings from GenAI in SDLC survey (November 2025)

DECEMBER 2025

State of GenAI across SDLC

Key findings from the 2025 GenAI in SDLC survey

a

GenAI deployment across the SDLC is underpenetrated

- GenAI usage remains low across most SDLC stages (e.g., <10% deploy GenAI tools for ops & support, legacy code, testing & QA)
- General-purpose, chat-based tools dominate (e.g., 44% of tools used in dev. & coding)

b

Early adopters see real impact – and impact is accelerating

- Top decile performers achieve >30% productivity gains and >25% quality gains
- More orgs are achieving gains now vs. early 2025 – leaders at the forefront with bold ambitions are targeting 2x improvements, indicating greater gains ahead

c

Buyers care about performance – yet struggle to differentiate between tools in an evolving market

- Performance is the most important selection criterion for GenAI tools across multiple SDLC stages
- Yet 62% default to existing or established vendors

d

General-purpose AI assistants dominate – but SDLC-specific agents/copilots are breaking through

- General-purpose AI assistants lead (e.g., ~65% use ChatGPT)
- SDLC-specific agents/copilots from AI-natives / frontier labs are growing rapidly (Cursor usage 1% → 22% since Jan. 2025; Claude Code at 22% despite mid-2025 release) – with early signs of higher impact (~50% of users see >20% productivity gains)

e

Change mgmt. increasingly recognized as a barrier to adoption – top decile performers invest more

- Change mgmt. is top barrier to adoption – growing in importance since Jan. 2025
- Top performers with top decile productivity gains are ~1.2-1.4x likely to invest in intensive learning, ongoing enablement, changes in SDLC processes

f

What we will be watching in 2026

- Top performers emerge across all tech stacks, industries, and company sizes
- The next frontier – measurement, legacy modernization, and testing & QA
- Characteristics that will define winning tools as experimentation winds down

In November 2025, we asked ~500 C-suite tech leaders about how they were adopting GenAI across the SDLC

Theme	Key focus areas for the survey
Tool usage across SDLC	• Usage of GenAI tools across all SDLC stages (e.g., coding & development, product mgmt. & requirements, design & prototype, ops. & support, legacy code, knowledge and documentation, testing and QA, monitoring & observability, and productivity measurement)
Buying patterns	• Preferences in selecting and purchasing GenAI tools • Top challenges with selecting GenAI tools • Ranking of selection criteria and associated tools
Organizational enablers	• Top challenges with adoption • Investment in change management, training, and other related organizational enablers • Adoption process timeline and barriers to implementation
Impact	• Quantified productivity and quality gains from GenAI tools • Preferred measurement methods • Developer allocations based on productivity gains
Agentic coding tools	• Agentic coding tools practices (e.g., policies around autonomy, use cases, concerns with adoption)

Note: To track trends over time, we compared results to a comparable survey, State of GenAI across Engineering, conducted in January 2025 with 100 CIOs/CTOs.

Target respondent demographics

50% respondents from North America
30% respondents from Europe
20% respondents from APAC

~35% annual revenues >$1B
~45% annual revenues >$100M
~20% annual revenues $25-$100M

At least 80% of companies using paid/enterprise GenAI tools
Up to 20% planning to adopt within the next 12 months
Excluded companies with no plans to adopt GenAI

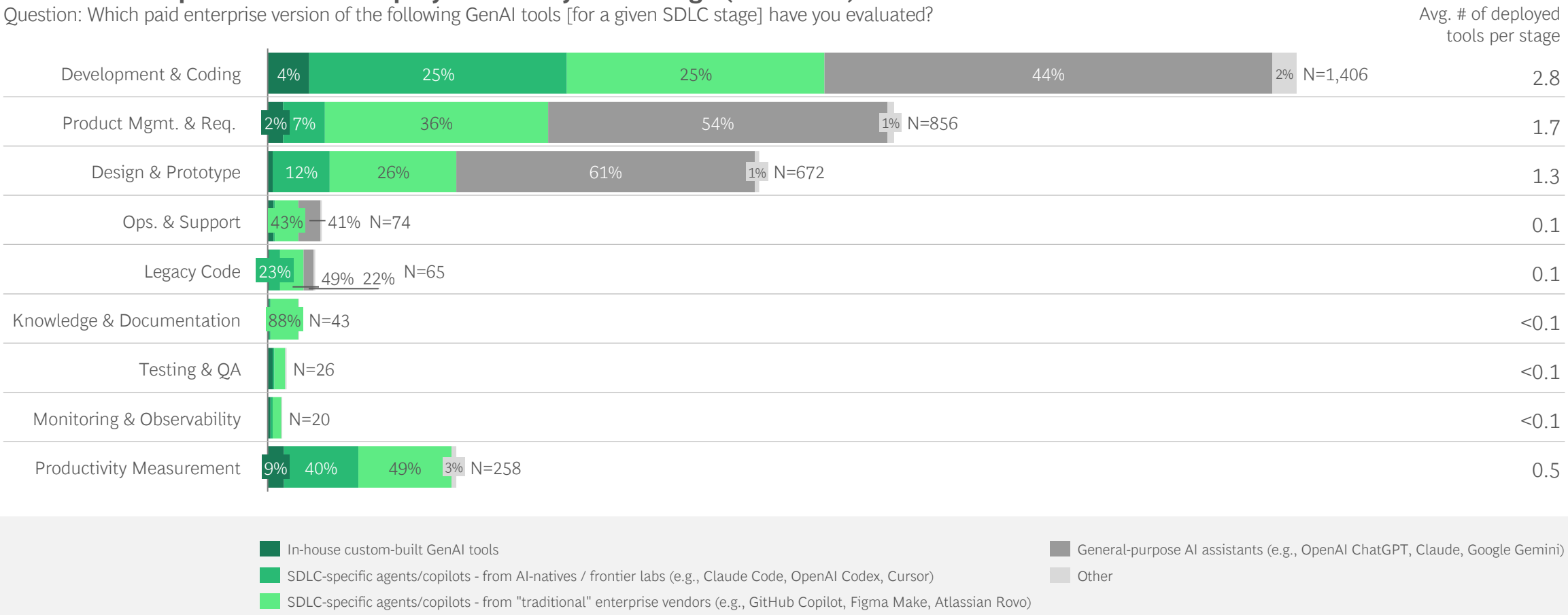
~500 CTOs, CIOs, CPTOs, and CPOs from scaled software orgs (>50 engineers)

TMT & Financial Institutions (~50% combined), plus balanced representation across Consumer, Industrial, Healthcare, Insurance, and Energy

Across SDLC, GenAI usage remains limited and general-purpose AI assistants dominate – signaling white space

Breakdown of purchased and deployed tools by SDLC stage (% of tools)

Question: Which paid enterprise version of the following GenAI tools [for a given SDLC stage] have you evaluated?



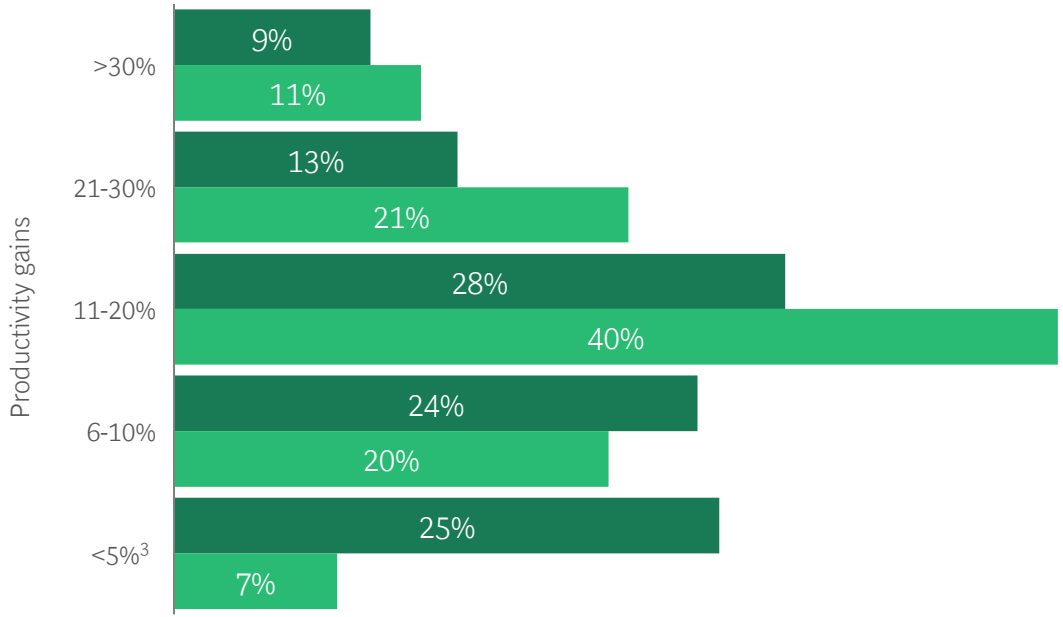
Note: N is larger than survey respondents as respondents may purchase and deploy multiple tools
Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

More organizations are seeing uplift in productivity and quality from deploying GenAI tools than in Jan. '25

~32% of orgs. see productivity gains of >20% (vs. 22% in Jan. '25)

Breakdown of productivity gains (% of respondents)

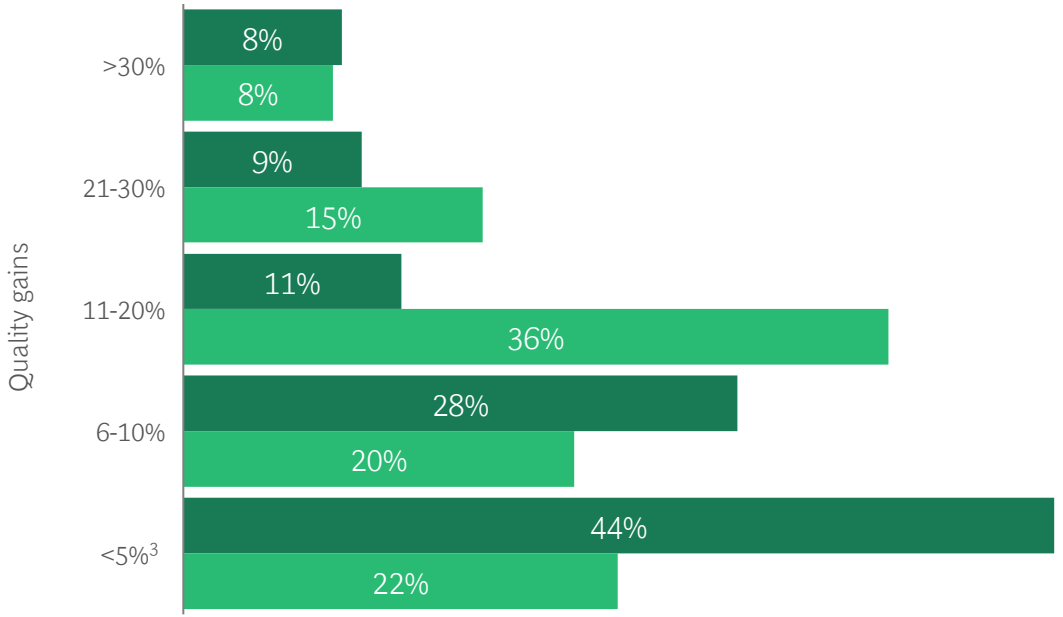
Question: For active users of GenAI tools (defined as 20+ interactions with GenAI tool per day), what percentage improvement have you seen in software development productivity due to GenAI adoption to date?[1]



~23% of orgs. see quality gains of >20% (vs. 17% in Jan. '25)

Breakdown of quality gains (% of respondents)

Question: For active users of GenAI tools (defined as 20+ interactions with GenAI tool per day), what percentage improvement have you seen in quality due to GenAI adoption to date?[2]



Jan '25 Nov '25

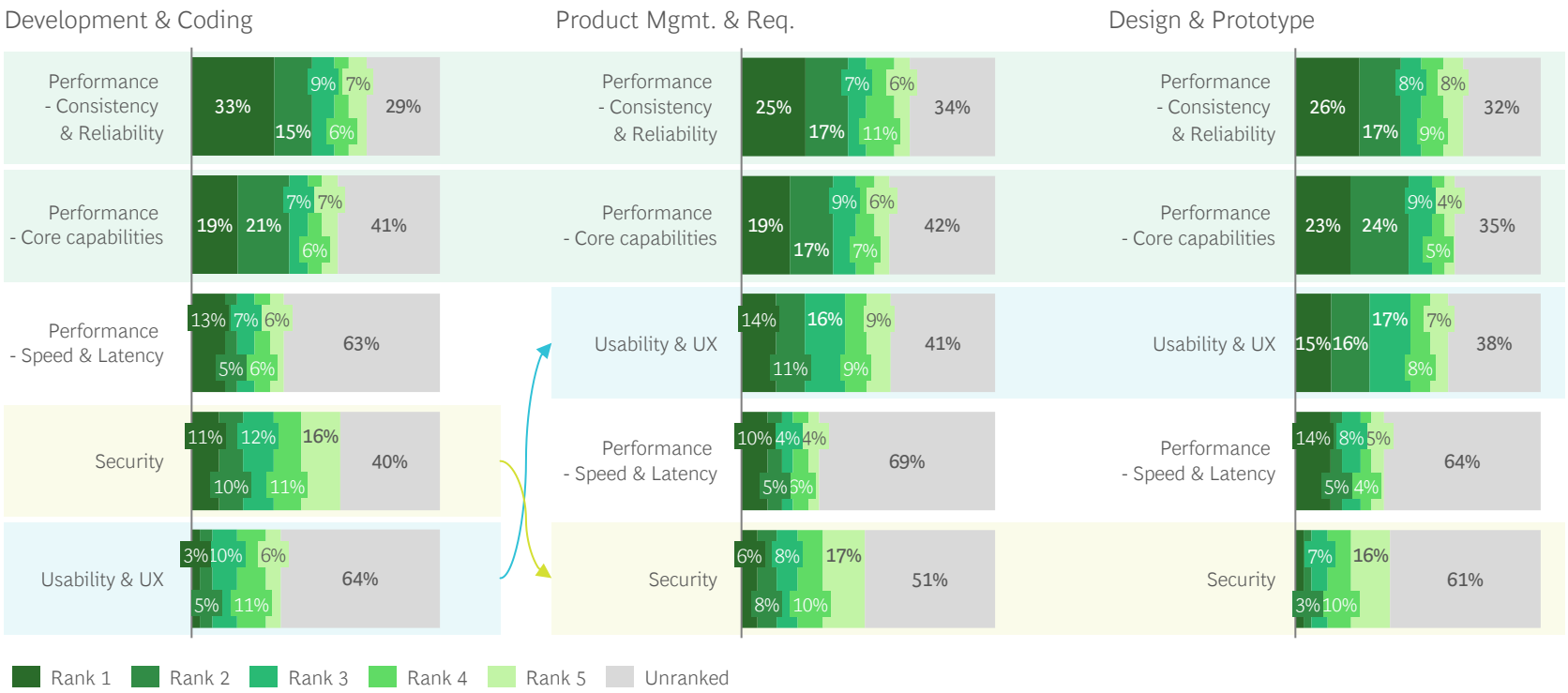
1. In Jan. '25 survey, question was posed as "What percentage improvement has your organization seen in [insert productivity metric] due to GenAI adoption to date?" 2. In Jan. '25 survey, question was posed as "What percentage improvement has your organization seen in [insert quality metric] due to GenAI adoption to date?" 3. "<5%" includes respondents who indicated negative impact or no impact
Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG; State of GenAI across Engineering Survey (January 2025), N=100

Buyers care about performance – yet struggle to differentiate between tools in an evolving market

Across SDLC stages, buyers care about performance…

Top 5 selection criteria by SDLC stage

Question: Which of the following criteria are most important in your evaluation for [a given SDLC stage] tools?



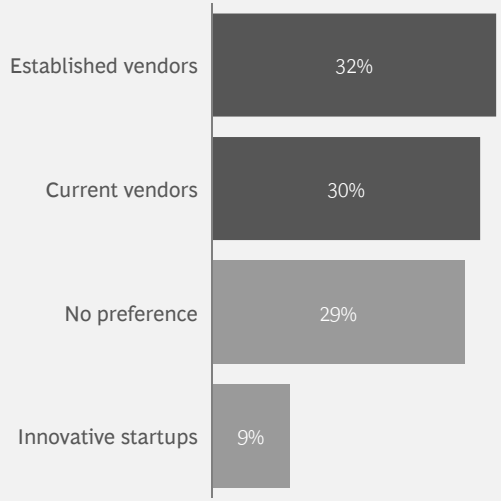
Additional selection criteria not shown above (ranked outside the top 5) are:
Performance – Agentic Features, Cost, Ease of Integration, Trust & Safety Controls, Customization, and Innovation

Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

… yet tend to select established or current vendors

Vendor preference during GenAI tool selection

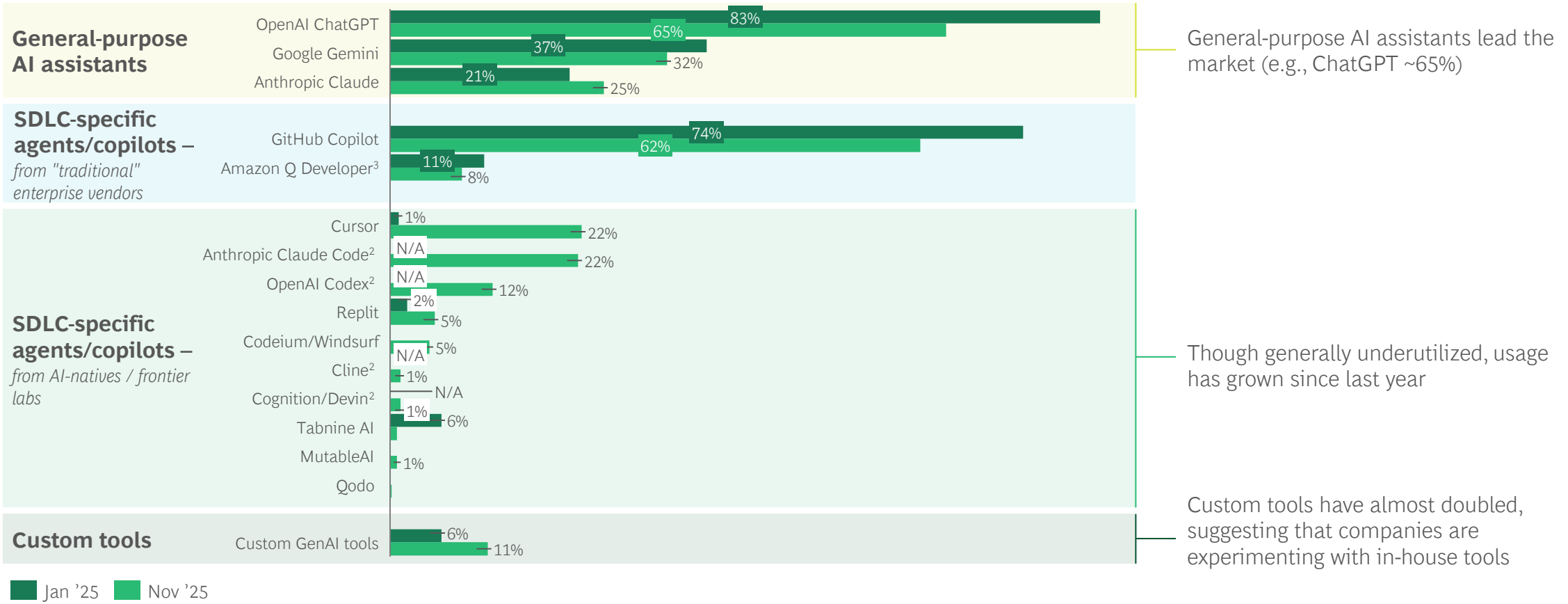
Question: What preference, if any, do you have in selecting a GenAI tool vendor?



General-purpose AI assistants dominate the market, though usage of SDLC-specific agents/copilots from AI-natives / frontier labs are growing rapidly

Breakdown of purchased and deployed tools in development & coding stage (Jan. '25 vs. Nov. '25)

Question: Which paid / enterprise version of the following GenAI Development & Coding tools have you evaluated?[1]

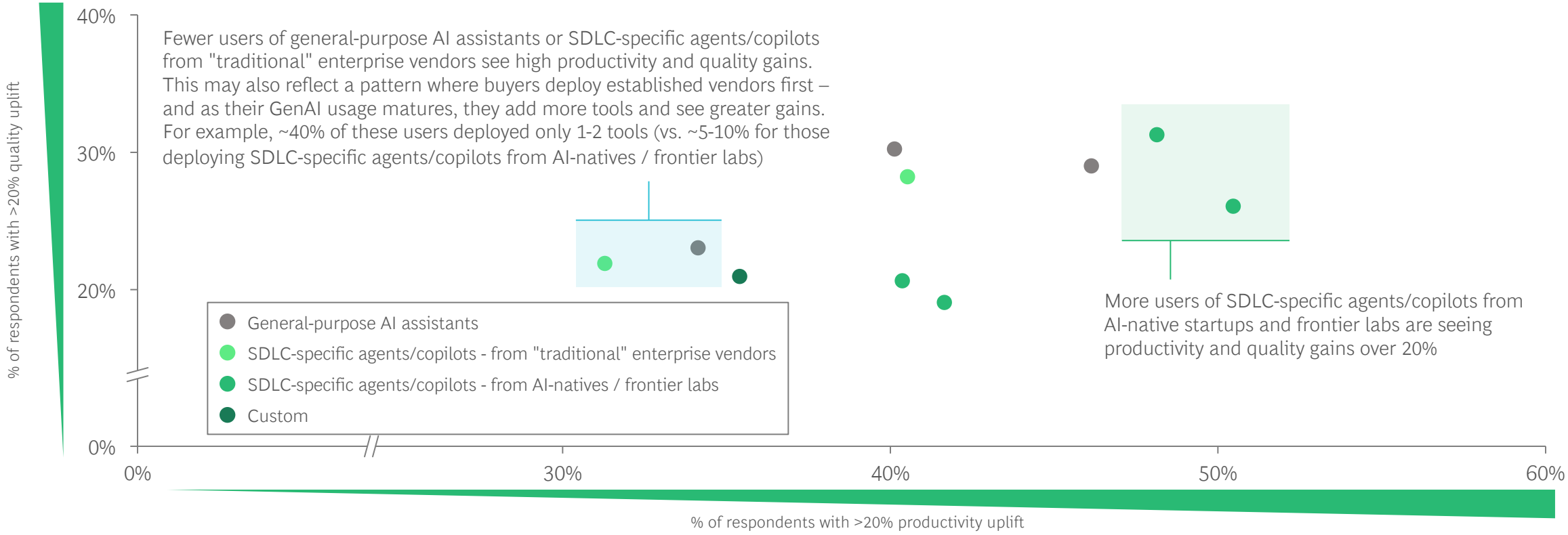


1. In Jan. '25 survey, question was posed as "To the best of your knowledge, which paid / enterprise version of the following GenAI code generator assistants are your developers using?" 2.Not part of Jan. 2025 survey 3. AWS CodeWhisper had 18% responses in Jan. 2025, but has since been merged with Amazon Q Developer for November 2025 survey
Note: Not shown are "other" category, which include Snyk DeepCode AI, Sourcegraph Cody, and other tools with 1 response
Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG; State of GenAI across Engineering Survey (January 2025), N=100

Early signs that more users of SDLC-specific agents/copilots from AI-natives and frontier labs are seeing productivity and quality gains

Share of users that show >20% gains in productivity and quality (% of respondents by deployed tools)

Question: For active users of GenAI tools (defined as 20+ interactions with GenAI tool per day), what percentage improvement have you seen in software development productivity / quality due to GenAI adoption to date

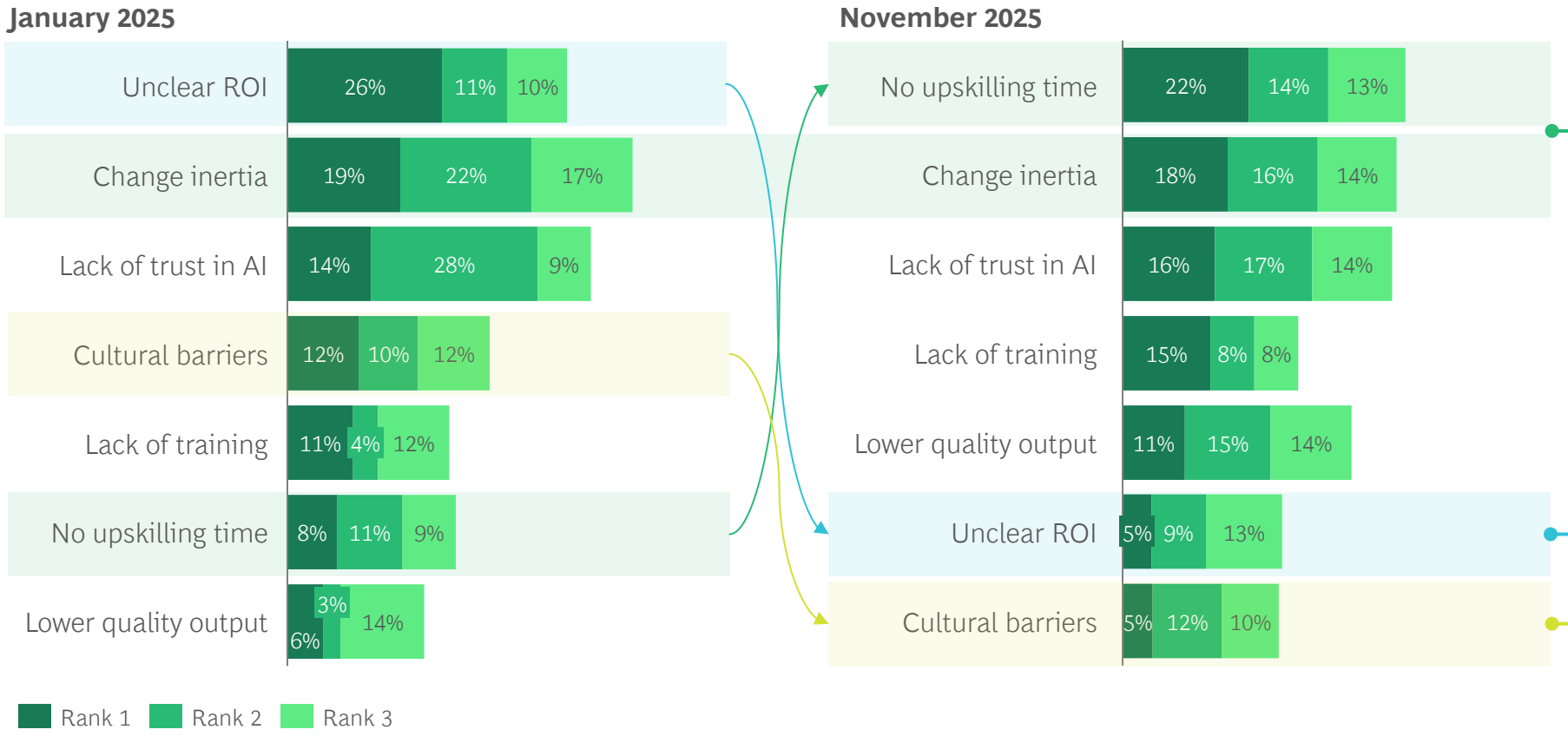


Note: Tools under 25 users have been removed; respondents may purchase and deploy multiple tools
Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

Upskilling time and change inertia are the biggest challenges to adoption; unclear ROI less challenging compared to a year ago

Challenges to drive adoption in development & coding tools (Jan. '25 vs. Nov. '25)

Question: For GenAI Development & Coding tools you have deployed, what are the biggest challenges to drive adoption of the tools and realize impact?[1]



Change inertia & upskilling time: Primary concern for adoption is change mgmt. – specifically, upskilling specifically is a bigger concern compared to early 2025, reflecting a growing acknowledgement among orgs that deployment alone is not sufficient

Unclear ROI: Companies have more confidence in ROI compared to a year ago, consistent with more companies seeing higher productivity gains

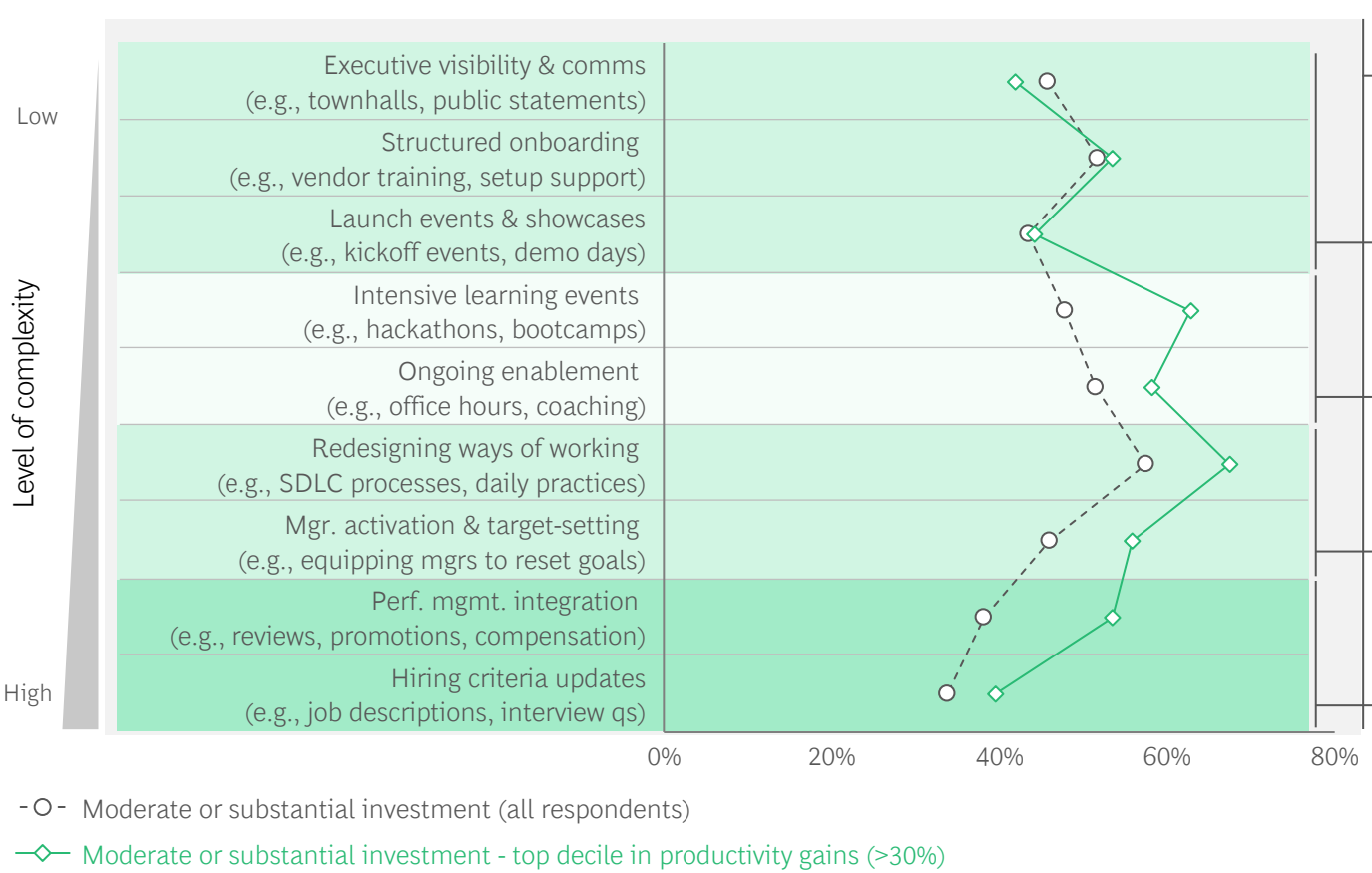
Cultural barriers: Compared to a year ago, cultural barriers considered less challenging – suggesting readiness to adopt AI-native tooling with upskilling / change mgmt. support

1. In Jan. '25 survey, question was posed as "What were the biggest challenges in driving adoption of GenAI tools?"
Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG; State of GenAI across Engineering Survey (January 2025), N=100

Top decile performers with >30% productivity gains invest in fundamental behavior changes, moving beyond townhalls and launch events

Respondents investing in change management activities (% of respondents)

Question: Focusing specifically on your change management and enablement efforts, how much effort is your organization investing in each of the following types of activities?
(For each, please select between "No investment," "Low investment," "Moderate investment," "Substantial investment")



Organizations underinvest in change management overall – only ~40-50% of organizations report substantial or moderate investment

All respondents invested similarly in executive visibility, onboarding, and launch events – suggesting these are table stakes and can be deployed across companies

Top performers move beyond the table stakes and are ~1.2x more likely to invest in intensive learning and enablement (though only half of respondents invest in the same activities)

Top performers also ~1.2x more likely to invest in redesigning ways of working and activating managers to reset expectations and accountabilities, suggesting executive leadership-driven change may be critical to unlocking value

Top performers ~1.4x more likely to invest in performance management (~26% substantial), yet a similar share does not invest at all (~23%) – reflecting the complexity of this lever and suggesting selective investment based on context

Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

What we will be watching in 2026

Top performers emerge across all tech stacks, industries, and company sizes

Modern architecture can accelerate, but legacy tech not a blocker

~15% of organizations working on service-oriented and cloud-native codebases see top decile productivity gains, vs. 8% on more monolithic architectures — signaling that **success depends more on execution & enablement than underlying tech**

Leaders emerge in every industry

Leaders achieving top decile productivity gains of >30% are seen in every industry. In addition, all industries see ~70%+ respondents with >10% productivity gains. As expected, some industry contrasts are also emerging. **TMT leads** (~17% report top decile productivity gains); followed by **Consumer** (~12% report top decile productivity gains) and **Financial Institutions** (~11% report top decile productivity gains)

Smaller firms move more quickly – but impact seen across all size bands

Though smaller firms see more productivity gains (15% of $25-100M firms achieved top decile) than large enterprises (8% of $10B+ firms in top decile), **uplift is seen across all company size bands**

The next frontier – measurement, legacy modernization, and testing & QA

Measurement gap continues

Interest in productivity measurement is growing as teams scale their GenAI investments. It is the **4th-largest tool category** and **76% of orgs** are adjusting developer allocation. Yet firms **continue to struggle with measuring developer capacity allocation** and only <50% can quantify impact from GenAI confidently. Most rely on self-built PowerBI dashboards (~25%), while <10% use telemetry tools such as DX (Developer Intelligence Platform), Jellyfish, Faros

Legacy modernization lagging expectations

Despite extensive discussion around GenAI's potential for legacy code modernization, **investments remain surprisingly low**, with only <10% of orgs deploying a GenAI tool – a gap we'll track as AI-native refactoring and migration capabilities mature

Testing & QA may be the next breakout

A year ago, CIOs called out **testing & debugging** as the number one area GenAI could support – but testing & QA remains underpenetrated, with only <5% of orgs deploying a GenAI tool

Characteristics that will define winning tools as experimentation winds down

From experimentation to consolidation

Today, firms **average 2.8 coding tools** – indicating an experimental phase. Yet firms are beginning to worry about **switching costs** (70% ranked as a top challenge when selecting a coding tool). As switching costs rise, will **experimentation slow and usage consolidate?**

Competitive dynamics: Enterprise vendors vs. AI-native challengers

Buyers tend to first deploy established vendors (e.g., GitHub Copilot, Atlassian Rovo, Figma Make) but are also starting to experiment (~60% of GitHub Copilot users add 2+ GenAI coding tools). Some users of tools from AI-natives / frontier labs report higher impact. Will enterprise incumbents close the **impact gap**, or will AI-native challengers continue to **expand share**?

Rising prominence of DevEx

Buyers cite **performance** as the top factor when evaluating coding tools, followed by **security** and **DevEx**. But in separate benchmarking of coding tools, **performance varied little** when held constant for model and task. Instead, DevEx, usability, & workflow fit drove differences. Given survey data showed higher impact when using some coding tools over others, we'll be tracking whether **DevEx – vs. inherent tool performance – emerges as a key driver of adoption**.

Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

Key contacts and topic experts for GenAI in SDLC

Key contacts for this work

Ben Feldman
Partner

Vikram Sivakumar
Managing Director & Partner

Clark O'Niell
Managing Director & Partner

Juli Cho
Project Leader

Swaraj Dharia
Consultant

Gavin Pola
Associate

Dash Advincula
Associate

Topic experts on GenAI in SDLC

Akash Bhatia
Managing Director & Sr. Partner

Greg Emerson
Managing Director & Sr. Partner

Matthew Kropp
Managing Director & Sr. Partner

Amit Kumar
Managing Director & Sr. Partner

Vladimir Lukic
Managing Director & Sr. Partner

Djon Kleine
Managing Director & Partner

Nipun Misra
Managing Director & Partner

Kamila Rakhimova
Managing Director & Partner

Stephen Robnett
Managing Director & Partner

Julie Bedard
Managing Director & Partner

Joppe Bijlsma
Managing Director & Partner

Julien Marx
Managing Director & Partner

Michael Engels
Managing Director & Partner

Jan Ittner
Partner & Vice President

Lucas Christenson
Partner

Matthew Rall
Partner

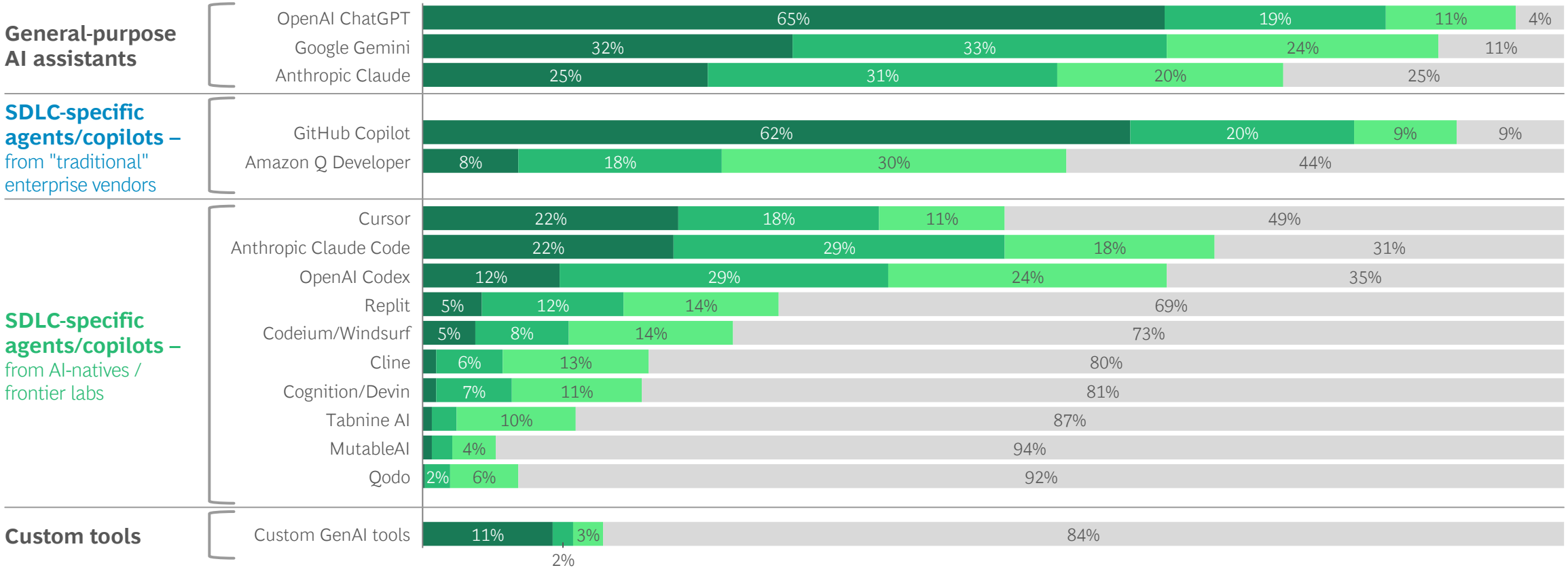
Key author & topic expert

Appendix

Within development & coding, opportunity for greater impact by leveraging more SDLC-specific agents/copilots from AI-natives / frontier labs

Breakdown of tool type and evaluation in development & coding stage

Question: Which paid / enterprise version of the following GenAI Development & Coding tools have you evaluated?

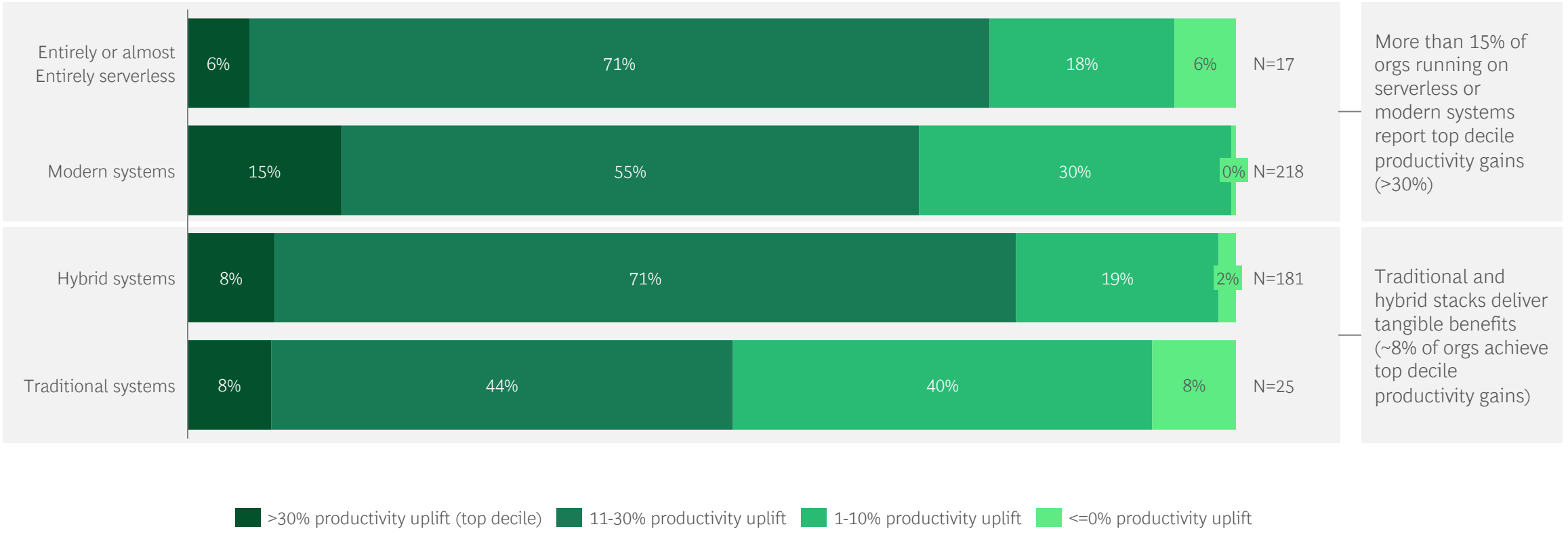


Note: Not shown are "other" category, which include Snyk DeepCode AI, Sourcegraph Cody, and other tools with 1 response
Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

Modern architecture can be leveraged to unlock value but is not a prerequisite for achieving productivity gains

Breakdown of productivity uplift leveraging GenAI across technology stacks

Question: For active user of GenAI what percentage improvement have you seen in software development productivity due to GenAI adoption to date? Please estimate to the best of your knowledge

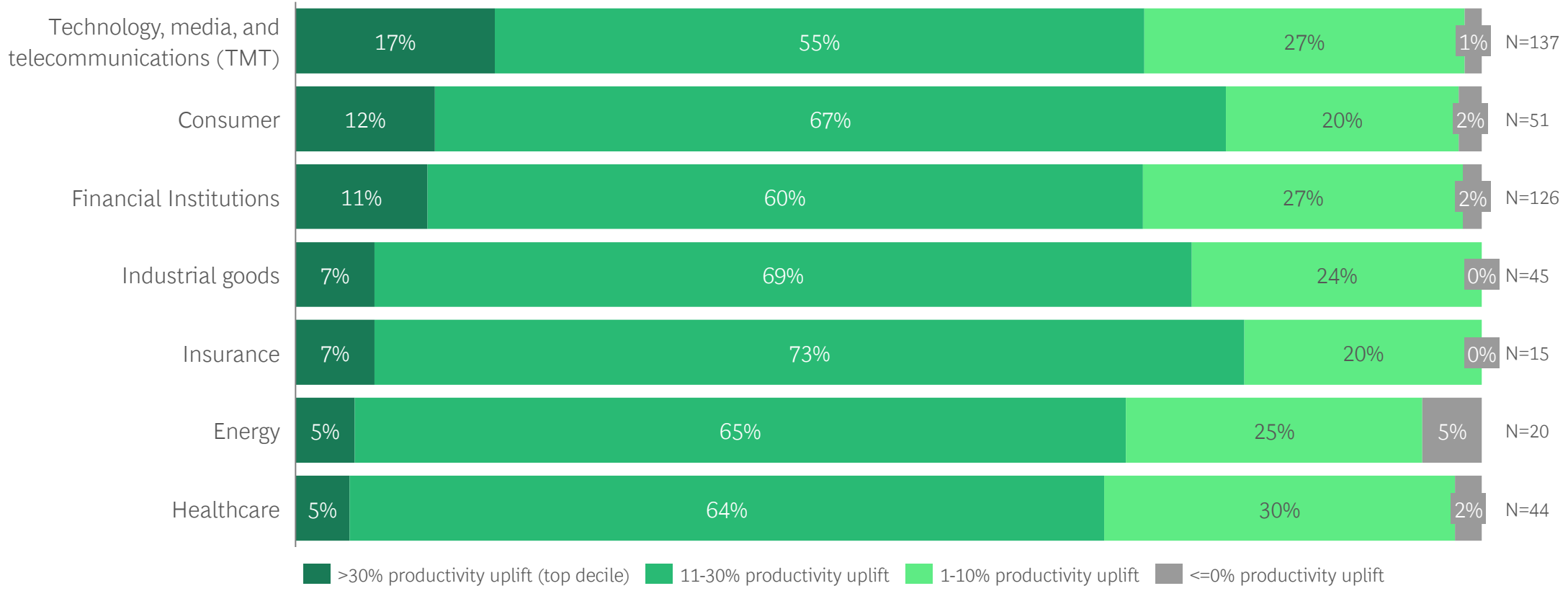


Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

Leaders in productivity gains emerge across all industries, though TMT, Consumer, and Financial Institutions receive the largest productivity gains

Breakdown of productivity gains by industry (% of survey responders per industry)

Question: For active users of GenAI tools (defined as 20+ interactions with GenAI tool per day), what percentage improvement have you seen in software development productivity due to GenAI adoption to date? Please estimate to the best of your knowledge; Question: In which industry does your organization primarily operate?

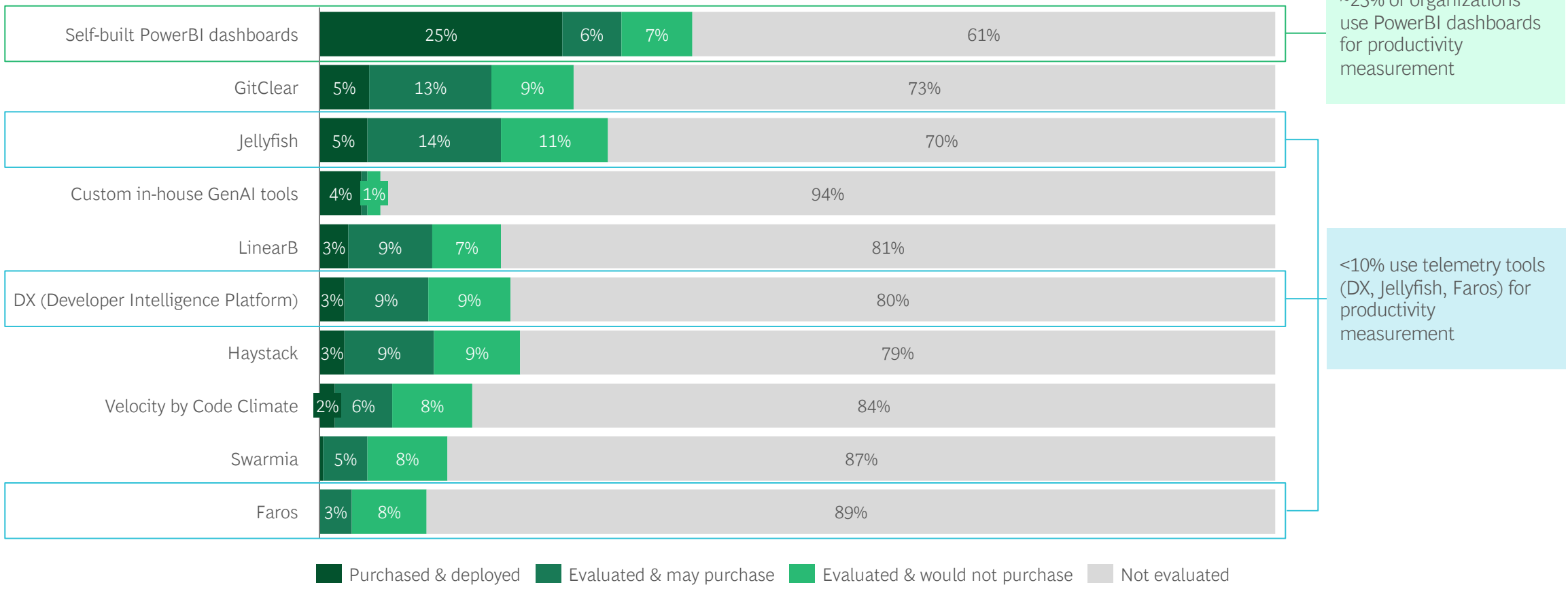


Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

Organizations are starting to invest in productivity measurement tools, but most commonly rely on self-built dashboards

Breakdown of productivity measurement tools used (% of total survey responders)

Question: Which if any, of the following developer productivity measurement tools have you evaluated and purchased?



~25% of organizations use PowerBI dashboards for productivity measurement

<10% use telemetry tools (DX, Jellyfish, Faros) for productivity measurement

Source: BCG GenAI in SDLC Survey (November 2025), N=500, conducted in collaboration with GLG

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