Cloudbees

The State of Code Abundance

Measuring the value and cost of AI-written code

What 450 IT leaders in Germany, France, and the UK reveal about the value and cost of agentic coding, and who's accountable for the code it produces

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Executive Summary

AI coding tools are speeding up software development across Europe. Seven in ten IT leaders (71%) say the tools have made development faster, and organizations are investing to scale them, with AI-related delivery spending rising at three in four organizations (76%) over the past year. As that investment grows, organizations need a clear view of what AI costs and what it returns so they can keep scaling it with confidence.

To understand what AI-written code really costs and how well organizations can account for it, an independent research agency surveyed 450 IT leaders at the manager level and above across Germany, France, and the UK in October 2026. Most (61%) work at companies with more than 1,000 employees.

The research builds on our 2026 State of Code Abundance report, a survey of more than 200 US enterprise technology leaders, which found that much of AI's cost was building up in existing CI/CD, testing, and security budgets, where it doesn't appear as AI spend.

More than one in five European organizations (22%) now spend €1 million or more per year on AI coding tools and their use. Yet, only 43% of leaders are confident they can calculate the full cost of AI-powered software delivery. Much like their US peers, many leave out the work AI creates downstream, with only 38% counting developer review time when they calculate what AI-powered delivery costs.

Boards will soon want to know what that spending returns, with 69% of European leaders expecting proof of AI coding ROI to become a board-level requirement by the end of 2027. Fewer than half are confident they could demonstrate that ROI within a month if asked.

Among IT leaders confident they can calculate the full cost of AI-powered delivery, 70% are also confident they could prove the ROI of AI coding within a month. Among those who aren't confident about cost, only 23% are confident they could prove ROI in that time. As agentic coding takes on more delivery work, organizations that can account for both the cost and the return of AI will likely be able to scale it fastest.

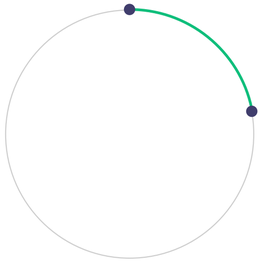
Accountability also needs to keep pace as AI produces more code. Fewer than a quarter of leaders (22%) could immediately identify who approved an AI-generated change running in production, and two-thirds (66%) say their approval processes were designed around human-scale development. That matters in Europe, where the EU's Cyber Resilience Act now requires software manufacturers to send an early warning within 24 hours of becoming aware of an actively exploited vulnerability or a severe incident impacting the security of a product with digital elements, followed by more detailed reports. Those reports are much harder to complete without a clear record of what changed and who approved it.

Regulation and data sovereignty shape technology choice, too. In Germany and France, data sovereignty and regulation already influence which AI tools organizations choose and how they govern them. UK leaders report far less influence from both.

European leaders are seeing real gains from AI coding, yet many can't yet account for its full cost or show what it returns. Those gaps will matter even more as autonomous agents take on a larger share of software delivery.

Top Findings

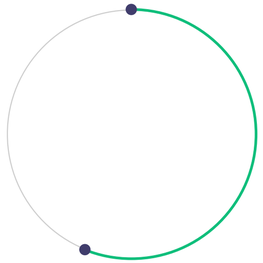
Organizations are investing heavily in AI coding:



22%

spend €1 million or more per year on AI coding tools and usage

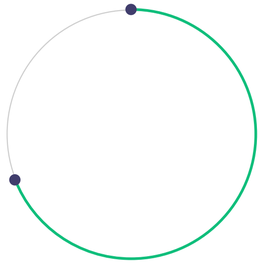
Few can see AI's full cost:



57%

aren't confident they can calculate the full cost

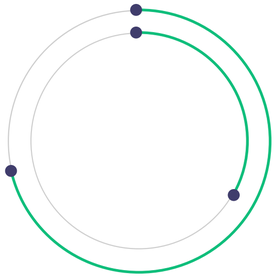
AI ROI is becoming a board issue:



69%

expect a board ROI requirement by the end of 2027

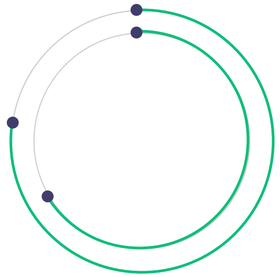
AI is speeding up development:



71% say development is faster

34% spend an hour or more checking AI code per hour it saves

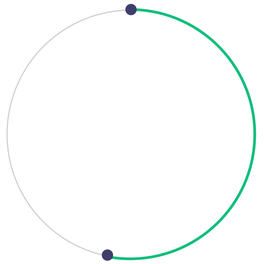
Approvals need to catch up with AI:



78% couldn't immediately identify the approver

66% say approvals were designed for human-scale development

Data sovereignty shapes tool choice:



54%

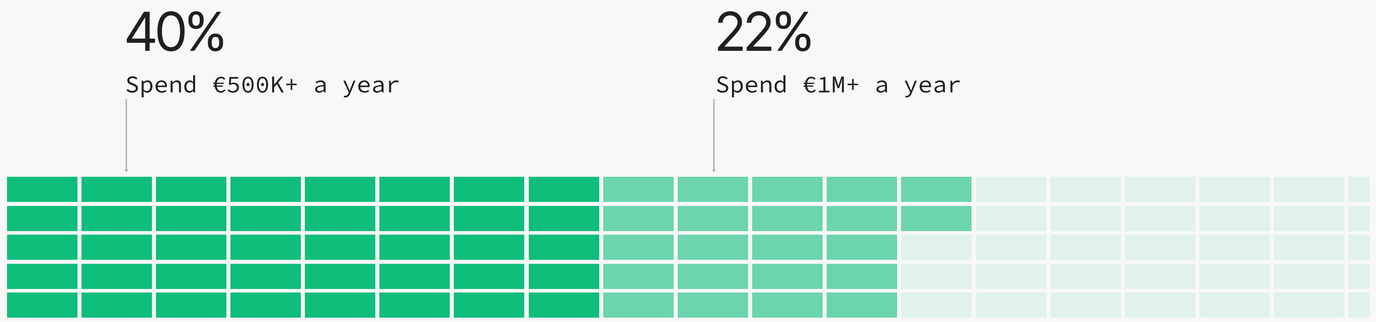
say sovereignty concerns restricted their tool choice

Across Germany, France, and the UK, more than one in five organizations spend €1 million or more a year on AI coding. Yet, fewer than half of IT leaders are confident they can calculate what AI-powered delivery really costs.

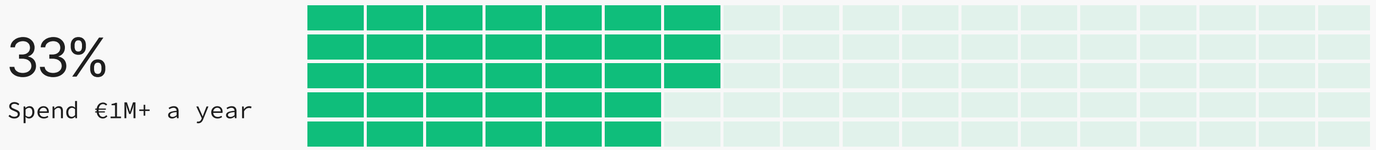
AI coding has become a major investment

European organizations are investing significant funds in AI coding. Two in five (40%) spend €500,000 or more a year on AI coding tools and usage, and 22% spend €1 million or more, rising to 33% at companies with more than 1,000 employees. For 64% of organizations, AI-related software delivery spending rose over the past year and is expected to rise again over the next 12 months.

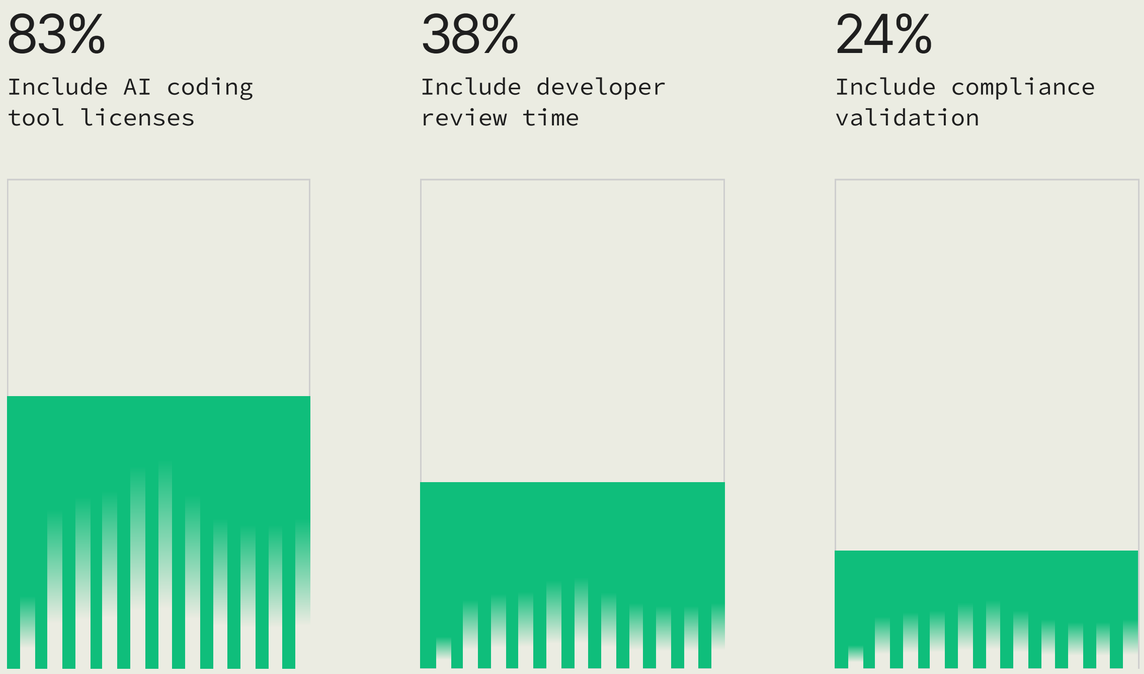
Annual spend on AI coding tools and usage



Large organizations (1,000+ employees)



What's included when budgeting for AI-powered delivery



The tool bill is only part of the cost

On paper, AI coding is still a small slice of software delivery spending. In 65% of organizations, AI coding tools and usage account for less than a tenth of the total software delivery budget, with the rest going to the people, infrastructure, and processes delivery already runs on.

But that figure likely understates what AI really costs. When organizations budget for AI-powered delivery, they count the tools far more often than the work the tools create. Most (83%) include AI coding tool licenses, but only 38% include developer review time, and just 24% include compliance validation. The gap shows up most where costs are climbing fastest. Of the organizations that name code review among their fastest-growing AI costs, six in ten (60%) leave developer review time out of their AI delivery budget.

To fully account for spend, organizations need to identify costs tied to AI-powered delivery that show up elsewhere in the budget. Leaders say these are growing fastest:

- Cloud consumption (51%), as more code runs through builds, tests, and production
- Code review (46%), as developers check what AI writes
- Code correction (38%), as teams fix what AI gets wrong

Leaders say these are growing fastest:



51%
Cloud consumption

46%
code review

38%
code correction

Few organizations can see the total cost

Only 43% of leaders are confident their organization can calculate the full cost of AI-powered software delivery, and just 13% say a single executive or function has a complete view of it. Even so, more leaders say AI coding tools have made software delivery less expensive (44%) than say they've made it more expensive (28%).

Cost visibility is a challenge in the US too. In our initial 2026 State of Code Abundance report, less than half (45%) of US leaders described their AI spend as highly predictable quarter to quarter, and 54% said their CI/CD infrastructure spend had increased significantly.

Seven in ten European IT leaders expect proving the ROI of AI coding to become a board requirement by the end of 2027, yet fewer than half are confident they could demonstrate it within a month.

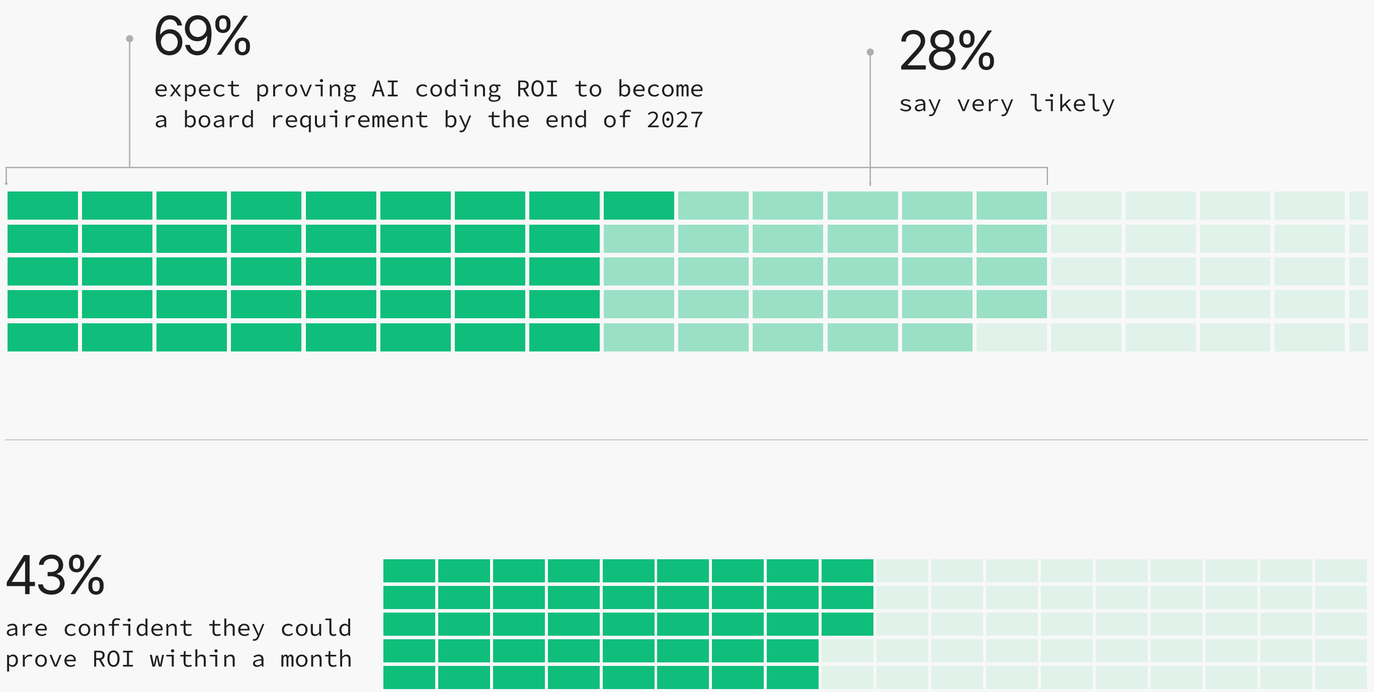
Boards will ask for proof of AI ROI

Proving the value of AI coding is moving up the agenda. More than two-thirds of leaders (69%) say it's likely that proving the ROI of AI coding will become a board-level requirement at their organization by the end of 2027, and 28% say it's very likely.

Many leaders aren't ready for that request. If their CFO or board asked them to demonstrate the ROI of their AI coding tools, only 43% are confident their organization could do so within a month.

Leaders are evenly split on whether they can demonstrate that AI-assisted code improves business outcomes, with 43% saying their organization can do so effectively and 43% saying it can't. In our US report, 68% of US leaders said AI had clearly delivered business value, yet they could tie only 31% of their AI-related spend to specific business outcomes.

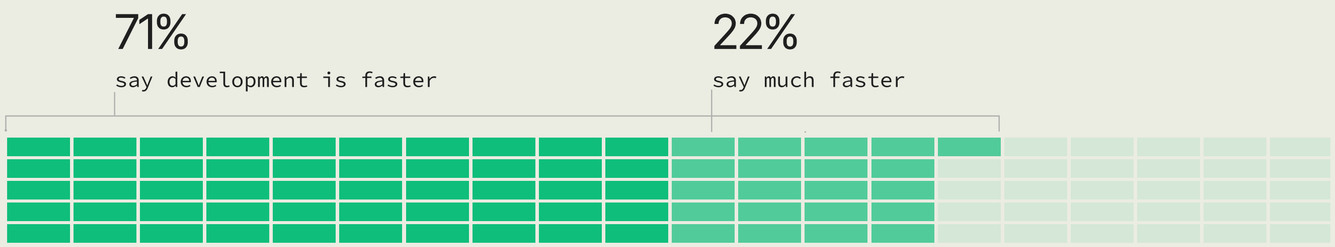
Proving the ROI of AI coding is moving up the agenda



Seven in ten European IT leaders say AI coding tools have made software development faster.

Faster development brings more to check

IT Leaders say tools have made development faster

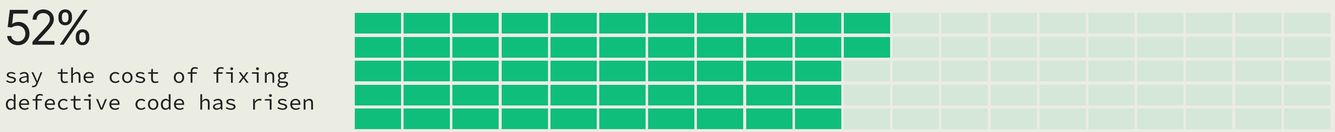


Checking time per hour AI saves:



Poor quality code:





AI coding tools are delivering on their core promise across Europe. Most IT leaders (71%) say the tools have made software development faster at their organization, including 22% who say much faster, and 61% report saving some or a significant amount of developer time overall since adopting them.

For most organizations (58%), checking AI-generated code takes less than an hour for every hour AI saves, so the gains hold. For a third (34%), though, reviewing, testing, and correcting what AI produces takes as much time as AI saves, if not more.

As AI writes more code, testing and review carry more of the load. More leaders say AI coding tools have increased the amount of poor-quality code their organization produces (46%) than say the tools have reduced it (32%). Over half (52%) say the cost of fixing defective code has risen since adoption.

In our original Code Abundance report, 70% of US enterprise technology leaders say that maintaining their test suite has become a greater burden than writing code itself.

In Germany, France, and the UK, only one in five IT leaders could immediately say who approved AI-generated code running in production.

AI-written code needs clear owners

As AI writes more of the code that ships, it's getting harder to know who stands behind each change. A majority of leaders (53%) say AI-generated code has made software accountability harder at their organization, compared with 19% who say it has made it easier.

When asked how quickly they could name the approver of an AI-generated change running in production, just 22% said immediately. Over half (54%) say they could do it within an hour, while 17% would need more than a day or couldn't reliably identify the approver at all. When something goes wrong in production, an unclear approval trail makes the investigation that follows slower and harder, from identifying the root cause to explaining to auditors and regulators what happened.

When asked how quickly they could name the approver of an AI-generated change running in production



22%

said immediately

54%

said within an hour (including immediately)

17%

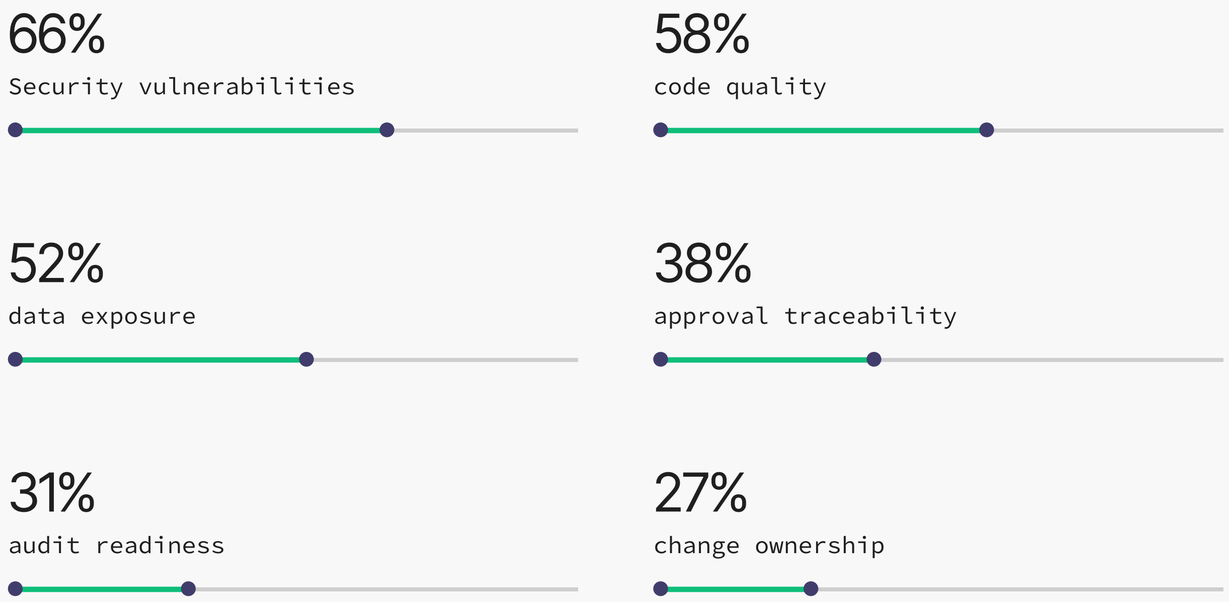
said they would need more than a day or couldn't reliably identify them

Agentic coding is gaining ground, with about half of leaders (52%) saying their organization is likely to let agents work autonomously within predefined guardrails. When AI agents carry out delivery work on their own, changes can move through the pipeline with less direct human involvement, so knowing who approved each one becomes even more important.

So far, organizations ready for autonomous agents are about the same at tracing approvals as the rest. Only 22% of them could immediately identify who approved an AI-generated change, compared with 19% of organizations that are unlikely to allow autonomous agents.

Traceability also sits mid-table among leaders' governance concerns. Security vulnerabilities (66%), code quality (58%), and data exposure (52%) top the list as AI takes a larger role, while approval traceability (38%), audit readiness (31%), and change ownership (27%) trail behind.

Traceability sits mid-table among leaders' governance concerns

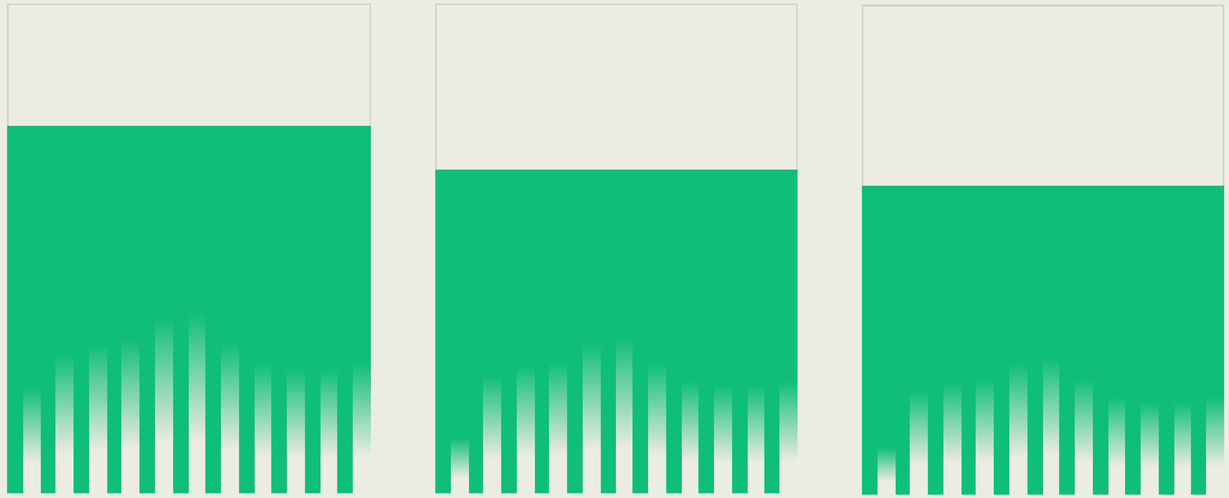


Approvals still run at human pace

75%
strengthened software governance since adopting AI coding tools

66%
say approval processes were built for the pace of human developers

63%
expect AI-generated code to become too much for humans to review in full



Most organizations are already adapting their governance to AI. Three-quarters of leaders (75%) say their organization has strengthened software governance since adopting AI coding tools. Even so, two-thirds (66%) agree that their approval processes were built for the pace of human developers, and a majority (63%) say AI-generated code is likely to become too much for humans to review in full. As the volume of AI-written code grows, more of that oversight will need to be automated.

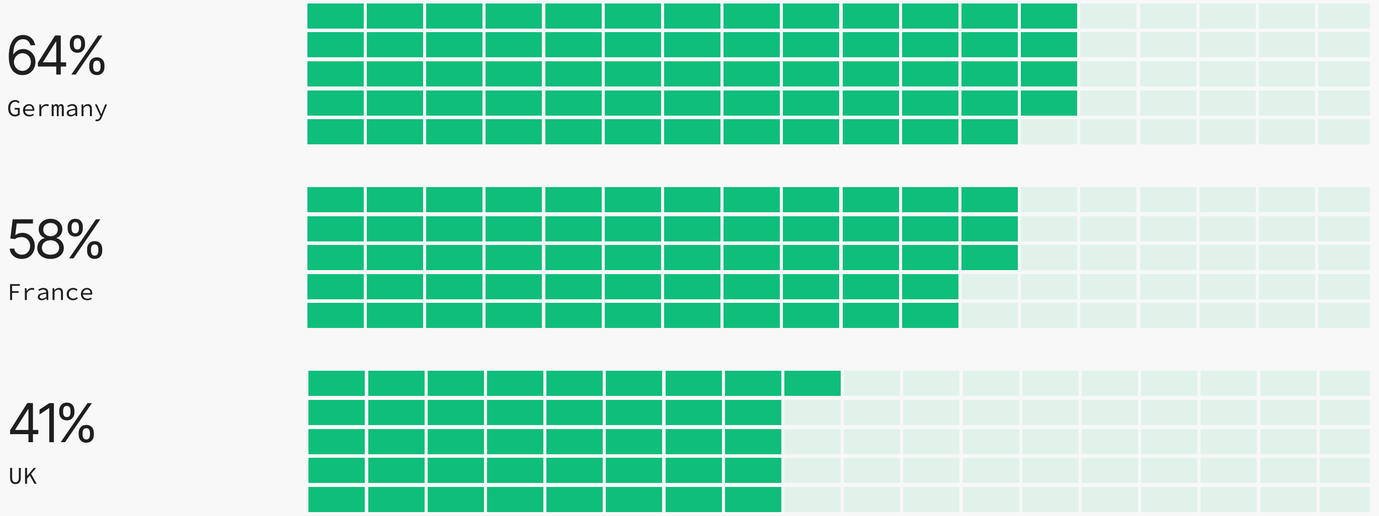
IT leaders in Germany and France are far more likely than their UK peers to say data sovereignty concerns have limited their choice of AI coding tools (64% and 58%, against 41%).

Continental Europe and the UK see AI governance differently

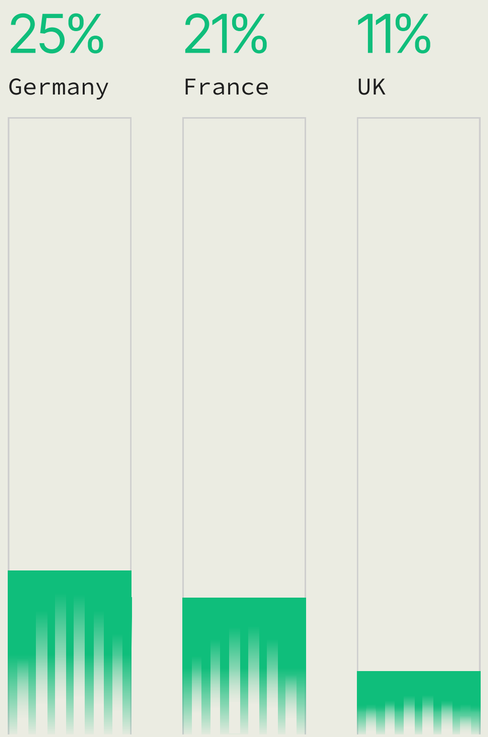
In some regions, geopolitical factors add even more complexity to governance. Concerns about data sovereignty, or about exposing proprietary code to external AI providers, are already shaping which AI coding tools European organizations use. More than half (54%) say those concerns have restricted their choice of tools, including 19% who say significantly.

That pressure is concentrated in continental Europe. In Germany, 64% say sovereignty concerns have restricted their choice of AI coding tools, and in France, 58% say the same, compared with 41% in the UK. Half of UK leaders (51%) say sovereignty concerns had no meaningful influence on their choice, against 29% in Germany.

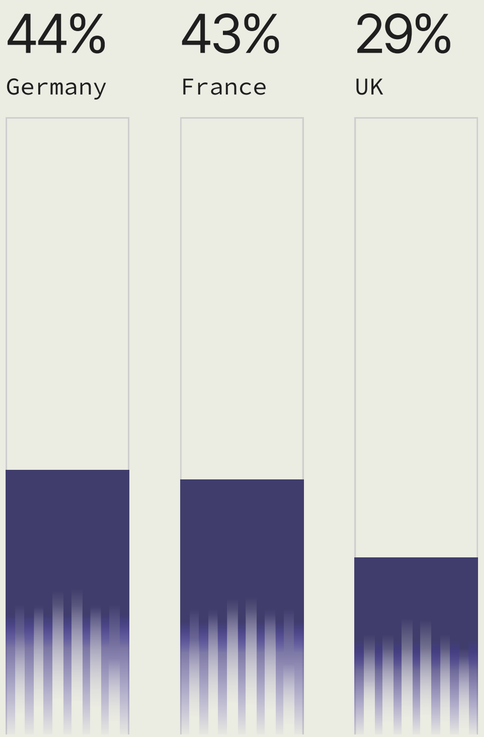
Sovereignty concerns restricted choice of AI coding tools:



Significantly restricted by sovereignty concerns:



Regulation shaping how they govern AI code without slowing adoption:



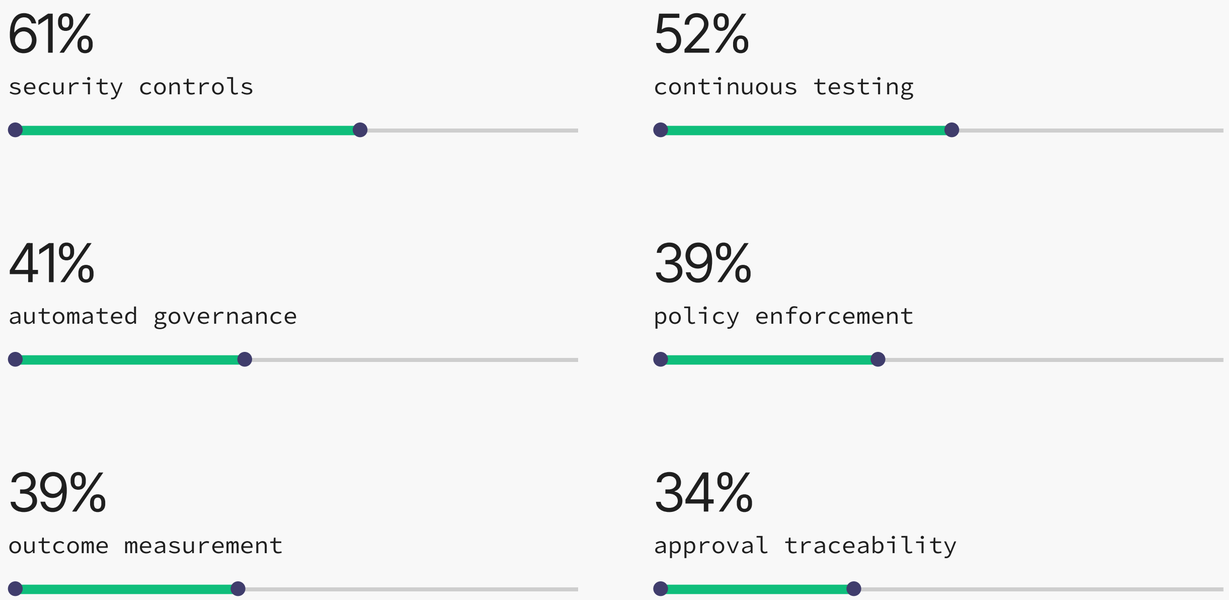
Asked whether regulation, such as the EU AI Act, is slowing their adoption of AI coding tools or shaping how they govern AI-generated code, 39% of leaders say it's shaping their governance without slowing adoption, and 17% say it's slowing adoption.

Regulatory compliance ranks as a top governance concern for 49% of leaders in Germany and 47% in France, compared with 35% in the UK. Leaders in the UK are also far more likely to say regulation has no meaningful effect on their use of AI coding tools (34%), and another 19% are unsure how the rules apply to their organization. But UK organizations that sell into the EU have reason to be just as cautious, since EU rules apply to them too.

Track every change to prove AI's value

When asked which capabilities will be most important to their software delivery operations as AI takes a larger role, leaders most often name security controls (61%) and continuous testing (52%). Many also point to capabilities that depend on tracking every change from proposal to production, including automated governance (41%), policy enforcement (39%), outcome measurement (39%), and approval traceability (34%).

Capabilities most important to software delivery operations as AI takes a larger role



Cloudbees provides the software factory with a single source of truth for every change, from the moment it's proposed until it runs safely in production. Teams can see what is ready to ship, what changed, and who approved it, and set policy for what a human still needs to review and what an agent can handle on its own.

Cloudbees also uses AI to pick out and run the tests most likely to catch real failures, so teams get faster, more reliable feedback on every AI-generated change. New changes can be released to a limited set of users first and switched off without a rollback if something goes wrong, which helps limit the cost of fixing defective code.

These capabilities work across Jenkins®, GitHub, GitLab, and homegrown systems without a migration, so organizations whose AI tool choices are limited by sovereignty concerns can keep one governed path to production.

Every line of code is written for a reason, and as AI makes code abundant, Cloudbees makes software delivery trusted. With every change accounted for, organizations can show their boards what AI delivers, backed by their own delivery records.

Talk to Cloudbees about measuring the value and cost of AI-written code.

Book a demo of Cloudbees Unify →