Global Survey Uncovers an "Aloneware" Crisis: Isolated AI Development Threatens Enterprise Stability and Adds Maintenance Costs

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Two-thirds of AI decision-makers and IT leaders say standalone coding assistants lead to "aloneware": software that's difficult to support, understand, and maintain.

MCLEAN, Va., Nov. 20, 2026 /PRNewswire/ -- Appian (Nasdaq: APPN), an AI automation leader, today released new research asking AI decision-makers and IT leaders about AI-assisted development. They found that enterprise investments in fast-tracked AI software development are creating an unexpected drain on corporate innovation capital, with 82% of enterprise leaders allocating at least 10% of their current technology innovation funds to test, deploy, maintain, update, integrate, and/or repair isolated AI software builds.

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In the global survey of 851 respondents at large enterprises, Appian defines a new term: "aloneware." These are applications built or modified with AI-assisted development tools outside an approved enterprise platform environment. While these tools accelerate initial code creation, organizations face mounting friction to understand AI-generated applications and keep them functional, secure, and integrated over time.





Upfront speed creates downstream work

Initial build speed is failing to deliver long-term efficiency. Just over seven in 10 (71%[1]) enterprise leaders surveyed report that while standalone AI tools accelerate development, they are spending more time across testing, system integration, troubleshooting, scaling, and/or deployment.

According to Matt Calkins, CEO of Appian, "Some people get so excited about 'free' software that they forget the risks. Enterprises can now create tech debt faster than ever before."

Aloneware diverts strategic innovation budgets

The operational burden of maintaining software built outside a platform is directly diverting capital away from strategic growth. More than eight in 10 (82%) enterprise leaders surveyed report allocating at least 10% of their current technology innovation budgets to testing, deploying, maintaining, updating, integrating, and/or repairing software built outside a platform environment. And 43% of those surveyed currently allocate at least 20% of the budget—a figure that 64% expect to allocate within the next two years, indicating that the financial drain is accelerating quickly.

Compounding these budget demands, more than two-thirds (68%[2]) of enterprise leaders report unexpected post-launch costs or resources tied directly to security, governance, and compliance remediation.

The support void and the need for platforms

When isolated AI applications break, organizations face a critical support void. More than two-thirds (68%[3]) of leaders find it challenging to access accountable technical support when problems arise with applications built outside a platform, while 66%[3] report difficulties keeping code, architecture, dependencies, and system integrations up to date.

Against this backdrop, 73%[4] of respondents state that a shared architectural foundation would improve their ability to control total cost of ownership and 71%[4] say it would help them maintain software over time.

"The most important applications in enterprises need support," Calkins adds. "If you vibe-code them, there will be nobody to turn to when problems occur. Using AI to build applications on a commercial platform combines the speed of AI with the reliability of supported technology."

To access the complete research findings and executive report, visit appian.com/aloneware.

About the research

The research was conducted by Censuswide among 851 senior decision-makers who primarily work in AI/Engineering or IT, work at large enterprises (5,000 employees or more, or annual revenue exceeding $1 billion), and who work on at least three software systems annually. Respondents were based in Australia, the USA, New Zealand, France, Germany, Italy, Spain and the UK. Data was collected between 21 and 30 October 2026.

Censuswide is a member of the Market Research Society (MRS) and the British Polling Council (BPC), and a signatory of the Global Data Quality Pledge. The research adheres to the MRS Code of Conduct and ESOMAR principles.

1. 'Completely agree' and 'Mostly agree' responses combined
2. 'Significant additional cost or resource' and 'Some additional cost or resource' responses combined
3. 'Very challenging' and 'Somewhat challenging' responses combined
4. 'Improve significantly' and 'Improve somewhat' responses combined

About Appian

Appian provides AI automation for the most important business processes at the world's largest organizations.

On the Appian Platform, customers build AI-powered processes that accelerate work, reduce cost, and manage risk. Our platform is known for its unique power, reliability, and scale. We've been automating processes for more than 25 years and have proven expertise in enterprise operations. For more information, visit appian.com. [Nasdaq: APPN]

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