Digital Engineering in the Agentic Era

How AI-Driven Systems Transform the Enterprise



brillio

Engineering Is Being Rewritten in Real Time

Software engineering is undergoing the most significant reinvention in its history. For years, enterprises have pushed automation as far as it could go – streamlining builds, orchestrating deployments, and reducing manual toil. But automation, by design, is limited. It executes predefined steps. It follows rules. It does not learn, interpret, or adapt.

Now, a new wave is forming. And it's reshaping the very foundation of digital engineering. Global market outlooks point to $4.4 trillion in incremental economic value unlocked by AI, but not by traditional machine learning models. The center of gravity is shifting toward autonomous, enterprise-aware agents capable of reasoning, coordinating tasks, and delivering multi-step outcomes across the engineering lifecycle. The unit of AI is no longer the model.

We are entering the age of agents.

This shift is redefining the competitive landscape. Hyperscalers are embedding AI deeper into their stacks. Platform disruptors are racing to release orchestration layers. Developer tools are becoming intelligence amplifiers. And enterprises are recognizing that the real battleground isn't simply "AI adoption" – it's agentic enablement.

Yet most organizations face a familiar, stubborn trio of roadblocks. Strategy remains unclear - where to play, how to differentiate, and how to win. Platform complexity grows as engineering teams navigate

Copyright © 2025 Brillio. All rights reserved

build vs. buy vs. abstract decisions in a rapidly shifting ecosystem. And talent constraints collide with cultural inertia, slowing down adoption even when leaders see the opportunity clearly.

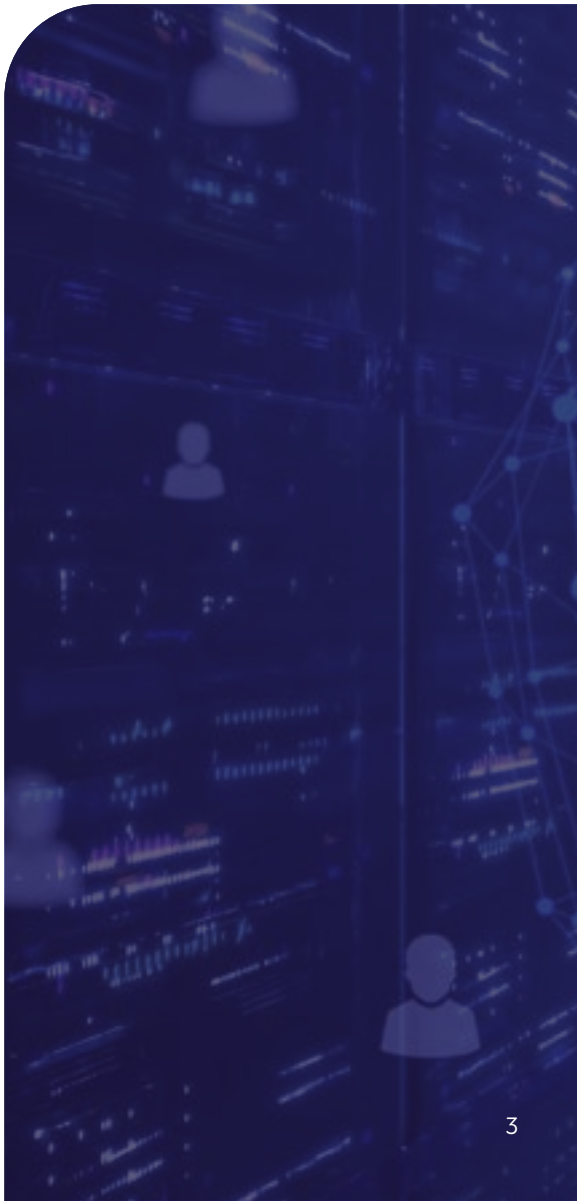
To break through these barriers, digital engineering needs more than tools. It needs an intelligence layer that connects modernization, development, operations, and reliability into a single adaptive system - one capable of observing, reasoning, and acting in real-time.This is where ADAM, Brillio's enterprise AI accelerator platform, becomes transformative. ADAM is built for the agentic era. It infuses AI across the entire engineering lifecycle, turning static modernization workflows into guided transformations, turning SDLC pipelines into self-optimizing systems, and turning AMS and SRE into predictive, autonomous operations that can resolve issues before customers ever experience them.

Instead of engineering teams manually piecing together insights, ADAM's agents scan, correlate, decide, and execute.

Instead of dashboards asking humans to interpret vast operational noise, ADAM organizes signals into clear narratives and recommended actions.

Instead of siloed engineering functions – modernization, SDLC, AMS, SRE – ADAM weaves them into a connected, intelligent digital engineering ecosystem.

In the chapters ahead, we explore how agentic AI reshapes each stage of the engineering journey - and how enterprises can move from automation to autonomy.



Copyright © 2025 Brillio. All rights reserved

Modernization Reinvented: Turning Legacy Into a Launchpad for Innovation

Modernization has always been the heaviest lift in enterprise engineering - part archaeology, part translation, part architecture. Teams were often left to untangle years of layered decisions, inconsistent design patterns, and undocumented dependencies. Each discovery introduced new risks. Each rewrite required human review. And each test became a race against an ever-growing backlog.

With ADAM, modernization takes a different shape entirely.

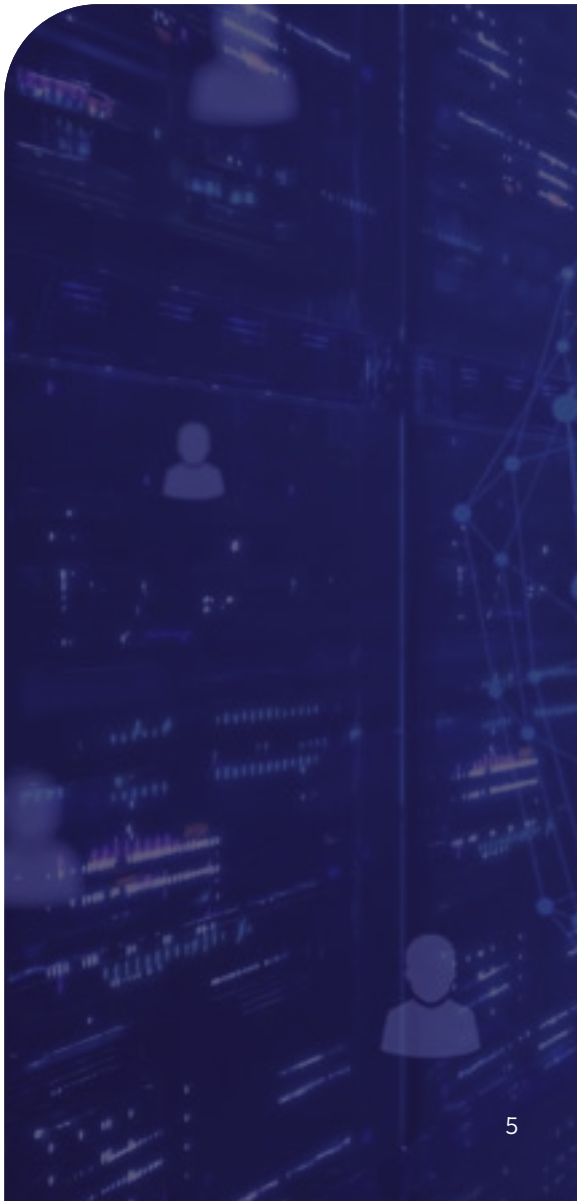
The process begins with AI agents that comb through application source code with a level of detail and consistency no manual assessment can match. Dependencies, redundancies, hidden structures – everything is surfaced in minutes, not weeks. Instead of waiting for architects to piece together insight, teams begin with a clear and complete understanding of the application's true topology.

From there, generative AI produces architecture blueprints grounded in proven enterprise standards. These are not speculative drafts or generic templates, but tailored, prescriptive models designed for scalability and resilience. The platform's validation layer steps in immediately, checking every architectural choice against modernization principles and enterprise rules - eliminating inconsistencies before they take shape.

Copyright © 2025 Brillio. All rights reserved

Once the architectural foundation is solid, ADAM's agents take on the task most organizations dread: converting legacy code into modern languages and frameworks. Code is translated at scale, relieving teams from repetitive rewrites and significantly accelerating migration timelines. Automated test-generation agents complement this process by creating test scripts, datasets, and execution scenarios specifically tuned for the new environment. Testing no longer becomes the bottleneck but a streamlined, intelligent extension of the modernization flow.

The result is a modernization approach that feels less like a risky reinvention and more like a guided transformation: predictable, transparent, and dramatically faster. ADAM doesn't assist the modernization journey; it orchestrates it end-to-end.



Copyright © 2025 Brillio. All rights reserved

The Agentic SDLC: An Engineering Lifecycle That Improves Itself

If modernization is about reimagining what already exists, the SDLC is about ensuring that new ideas turn into reliable software, quickly and efficiently. But traditional development processes weren't designed for the speed and scale demanded today. Teams battle with shifting priorities, inconsistent visibility, resource bottlenecks, and quality issues that surface only when deadlines are already burning.

Embedding AI into every phase of the SDLC changes that dynamic completely.

With ADAM, the development lifecycle becomes a continuous loop of feedback, optimization, and intelligent orchestration. Every phase, design, development, testing, deployment – receives input from agents that monitor signals, predict bottlenecks, and guide the flow of work.

Quality assessments, for example, are no longer periodic checkpoints. AI generates real-time insights into code health, timelines, and risk exposure, giving engineering leaders visibility they've never had before. Instead of reacting to delays or defects, teams anticipate them.

Resource allocation – historically a human guessing game – becomes fluid and dynamic. Agents evaluate workload demands across teams and automatically rebalance resources to eliminate bottlenecks. Developers spend more time building, and less time waiting.

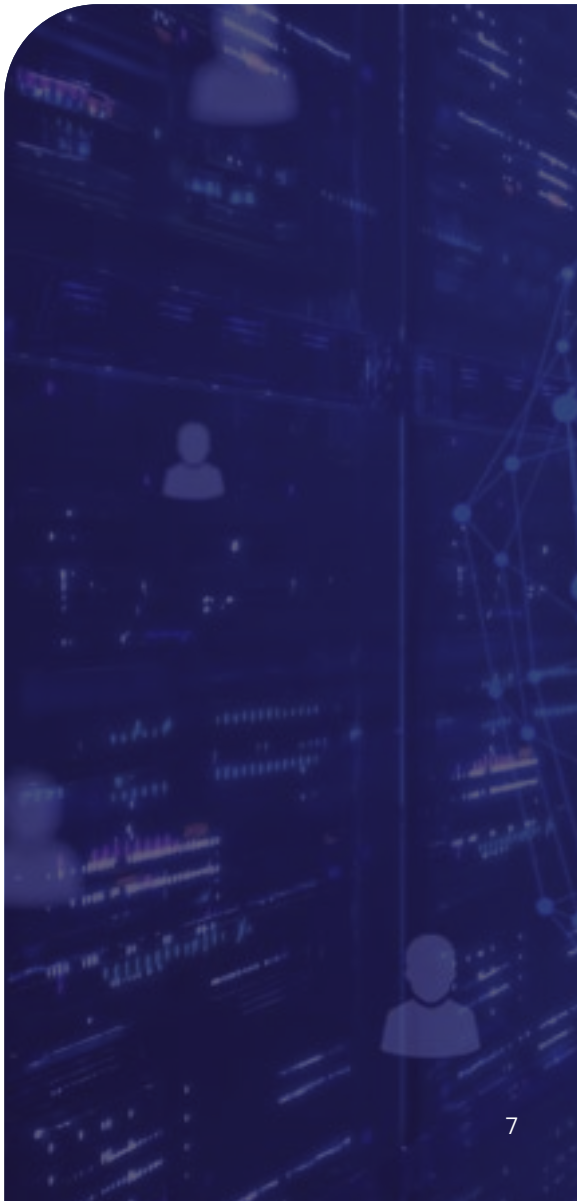


Copyright © 2025 Brillio. All rights reserved

Performance optimization also becomes continuous. ADAM tracks system behavior and engineering patterns across the SDLC, detecting inefficiencies and recommending corrective action long before they manifest as production issues.

And perhaps most importantly, the overall development capacity of an organization expands. Automated workflows, reusable patterns, and consistent orchestration remove much of the friction that slows teams down. For large migrations or new product rollouts, this often translates into release cycles that are 70% faster than traditional approaches.

The SDLC stops being a linear pipeline. It becomes an intelligent, adaptive environment - one in which engineering productivity compounds over time.



Copyright © 2025 Brillio. All rights reserved

AI-Led AMS: When Operations Shift From Reactive to Autonomous

Even the most well-designed applications eventually face operational strain. Ticket queues grow. Root causes hide beneath layers of logs and alerts. And teams spend countless hours resolving issues rather than improving the system itself.

ADAM redefines operations by turning AMS into a proactive, predictive, and increasingly autonomous discipline.

It starts with holistic observability. Instead of stitching together logs, metrics, traces, and events from a dozen tools, ADAM provides a single lens into application health across infrastructure, networks, databases, user experience, and cloud environments. This unified visibility dramatically changes how operations teams work - instead of hunting for signals, they interpret insights.

AI agents then automate ticket creation and triage. Deterministic models classify issues, while probabilistic ones evaluate symptoms and suggest the likeliest resolutions. What once required multiple layers of human review becomes a streamlined, accurate workflow.

Over time, the system begins to shift from guidance to autonomy. The AI-Orchestration Engine coordinates data collection, correlation, and remediation, while the Unified Command Center brings everything together into a single operational hub. Self-service experiences emerge for both users and support staff, reducing dependence on manual intervention. Productivity grows, ticket volumes drop, and MTTR shrinks.

Operations stop being a firefighting function and become a strategic advantage - a system that heals itself while teams focus on higher-value work.

Copyright © 2025 Brillio. All rights reserved

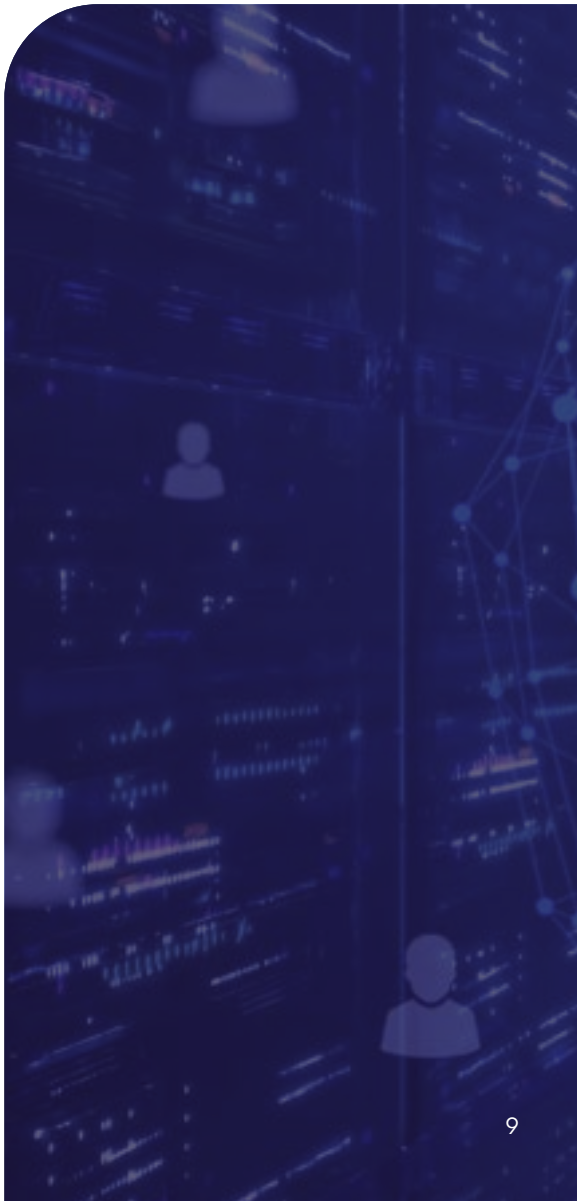
The Architecture Behind AI-Led AMS: A Living, Thinking Ecosystem

Behind the scenes, ADAM connects observability, analysis, remediation, and orchestration into a cohesive architecture that behaves more like a living system than a static monitoring setup.

Telemetry flows continuously from user experience metrics, application logs, infrastructure behavior, and cloud services. Agents analyze this data, classify anomalies, identify patterns, and enrich events with contextual intelligence. Deterministic and probabilistic reasoning models work together to propose likely causes and optimal resolutions. A central Command Center consolidates this intelligence and provides a single coordination surface for virtual agents, workflows, dashboards, and incident pipelines. The system does not simply display information - it connects dots, draws conclusions, and takes action.

Shift-left and shift-right capabilities allow teams to reassign responsibilities across development and operations, while self-healing catalogs automate routine fixes and minimize human touches for repeatable tasks.

The result is an operational architecture designed for scale, reliability, and continuous improvement, an AMS that becomes more capable the longer it runs.



Copyright © 2025 Brillio. All rights reserved

Agentic SRE: Reliability Engineering for a World That Can’t Slow Down

In the past, SRE teams navigated a constant swarm of signals, alerts, and ambiguities. Noise obscured real issues. Root cause analysis took too long. And manual runbooks created delays that impacted both customers and revenue.

ADAM brings clarity and acceleration to every part of the reliability process.

It begins by correlating signals from metrics, logs, and traces to eliminate false positives and surface actionable issues. AI then categorizes incidents intelligently, grouping related events into meaningful clusters, so engineers can focus on what truly matters.

Root cause analysis, traditionally forensic and time-intensive, becomes dramatically faster. Agents identify dependency failures, service degradation, and misconfigurations by connecting patterns across multiple data sources.

Generative AI provides recommendations for remediation and guides engineers in real time. Semantic search makes it possible to explore the organization’s technical memory – logs, tickets, dashboards, historical fixes – in a single conversational interface.

Finally, automated runbooks transform these insights into execution. Workflows resolve incidents automatically, ranging from CI/CD fixes to infrastructure resets and health checks. SRE shifts from reactive supervision to active system resilience.

In this model, reliability engineering becomes a force multiplier. Noise decreases. RCA accelerates. Teams gain time. And systems recover faster, often without human involvement.

Copyright © 2025 Brillio. All rights reserved

The Architecture of Agentic SRE: Intelligence From Signal to Resolution

The underlying architecture powering agentic SRE mirrors the same design philosophy as AI-led AMS: connected intelligence, continuous correlation, and autonomous action.

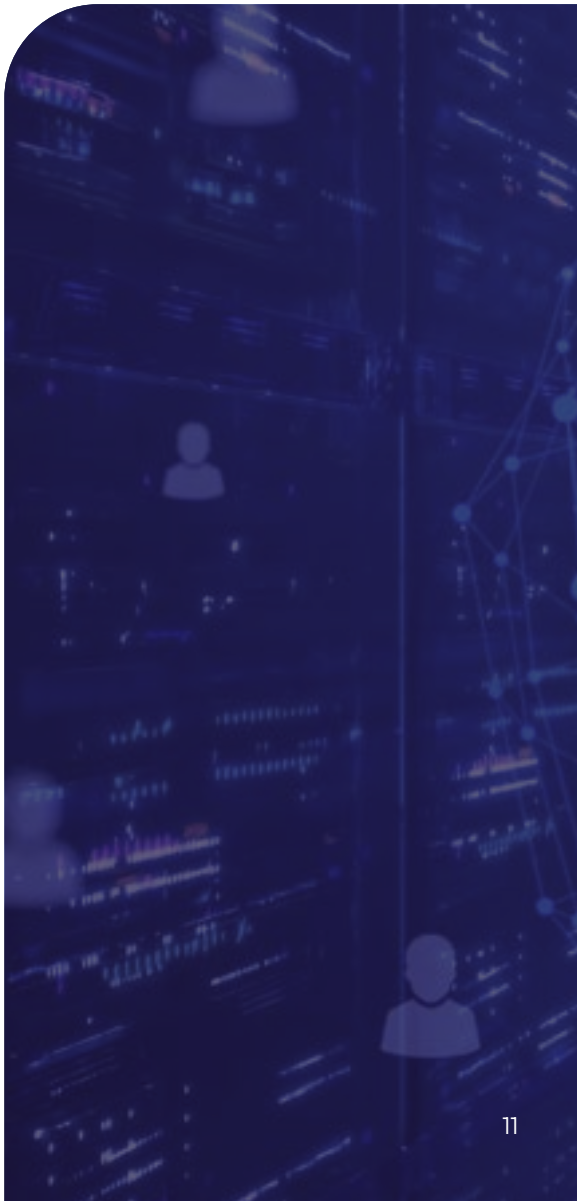
Telemetry streams in from multi-cloud, on-prem, and hybrid systems. ADAM's correlation engine, powered by Hawkeye, enriches events and removes duplicates. Applied intelligence models handle anomaly detection, classification, and dependency inference. RCA analysis identifies fault paths within seconds.

From there, an automation platform triggers workflows that resolve incidents or escalate with context-rich insights. These automations span device failures, CI/CD issues, instance administration, deployments, mapping updates, and health checks.

Engineers receive notifications via ChatOps, email, or dashboards, but increasingly, they step in only when the system encounters a scenario requiring human judgment.

Agentic SRE is not about replacing engineers. It's about allowing them to focus on engineering excellence while the system handles the noise.

To demonstrate how Agentic Digital Engineering delivers impact at scale, the next case study showcases how a major telecom provider used a multi-agent architecture, governed interfaces, and engineering workflows to strengthen churn prediction, accelerate resolution, and improve retention outcomes, with significant cost reduction along the way.



Copyright © 2025 Brillio. All rights reserved

Agentic Digital Engineering in Action – Unifying AI Defense for Churn at a Leading U.S. Telecom Provider

A leading U.S. telecom provider partnered with Brillio to strengthen churn prediction and streamline retention across multiple business units. Churn was influenced by a mix of customer service, network, and value-based factors, and the organization needed a unified approach capable of aligning 13+ initiatives, scaling reusable AI assets, and enabling consistent, cross-functional action.

Brillio introduced a Causation Intelligence Engine to pinpoint the true drivers of churn, uncovering high-risk deciles and top churn-prone centiles across core customer segments. Building on this foundation, the team operationalized insight-to-action workflows through specialized Agentic AI pods – automating ticket triage, accelerating billing remediation, surfacing proactive network insights, and enabling natural-language BI for rapid churn understanding. A governed Agentic AI platform unified data, AI lifecycle management, automated DQ, and multi-agent orchestration, while an enterprise-wide Agentic Marketplace improved reuse and discoverability of 32+ churn-focused AI assets.

The impact was enterprise-wide: churn reduced by 8bps, offer acceptance up 20%, service revenue up 2%, and cost of retention down ~15%, collectively influencing ~$1B in revenue. A scalable talent engine – with telecom, account, agentic, and tech learning paths – enabled sustained adoption across all business units. Together, these capabilities established a living, multi-agent AI system that continuously strengthens churn defenses and elevates customer experience across the telecom organization.

Driving enterprise-wide churn reduction with Causation Intelligence, Prescriptive Science, and Agentic AI.

Copyright © 2025 Brillio. All rights reserved

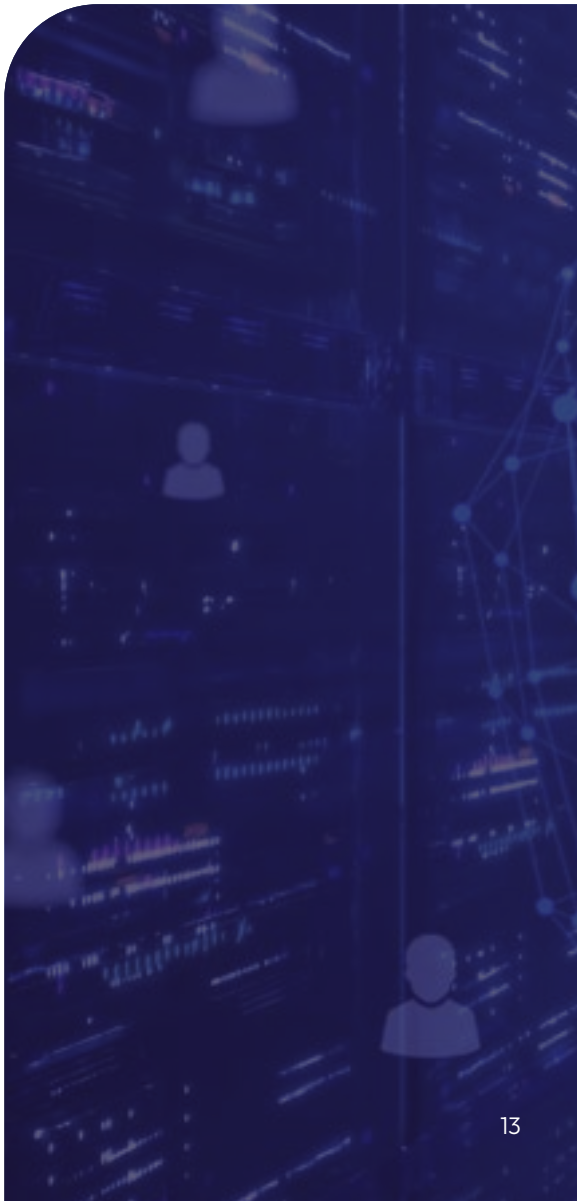
Engineering That Evolves Alongside the Business

The future of digital engineering isn't just faster processes or better tools - it's systems that adapt, reason, and collaborate with teams. With ADAM, modernization becomes predictable, SDLC becomes self-optimizing, AMS becomes autonomous, and SRE becomes a proactive guardian of reliability.

Enterprises gain speed. Teams gain focus. Systems gain resilience.

And engineering as a whole gains the ability to continuously improve.

In this new era, organizations don't just build software. They build ecosystems that learn, adapt, and grow with them.



Copyright © 2025 Brillio. All rights reserved

ABOUT BRILLIO

Brillio is a digital technology services company that drives AI-first engineering and design-led experiences for global enterprises. Born digital in 2014, its consulting-led services span Customer Experience, Data & AI, Product Engineering, and Digital Infrastructure. With an industry-leading NPS of 71, Brillio accelerates time to market through its proprietary BrillioOne.ai platform, powered by AI-ready talent with deep domain expertise. Brillio is the official Digital Transformation Partner and the official Data and AI Services Provider of Atlassian Williams Racing. Brillio partners with leading technology providers including Microsoft, AWS, Google Cloud, Salesforce, Adobe, Databricks, and Snowflake and operates with 6,000+ “Brillians” across 15 global delivery centers. Consistently recognized as a Great Place to Work® since 2021, Brillio blends innovation, talent, and purpose to deliver measurable outcomes for clients and fulfilling careers for employees.

https://www.brillio.com/
Contact Us: info@brillio.com

brillio