

**brillio**

# Accelerate app modernization with Microsoft Azure GenAI

**Brillio's GenAI capabilities, augmented with Microsoft Azure OpenAI and cognitive services, can revamp legacy app modernization processes and tailor modular products at scale.**

## **What's missing in application modernization today?**

Organizations are increasingly facing challenges in maintaining and sustaining legacy applications to meet the demands of digital businesses. Application modernization aims to improve functionality, scalability, security, performance, and user experience. Its success relies heavily on a well-defined strategy that aligns with an organization's broader goals and stakeholder buy-in. Legacy code, integrations, protocols, evolving security and regulatory aspects, and skill gaps make modernization processes complex. Additionally, domain and subject matter experts are crucial in steering modernization efforts due to their comprehensive understanding of business requirements, budget constraints, user needs, and technical debts. Identifying risks associated with data migration, compatibility, and business continuity requires

an end-to-end understanding of an application. Without the necessary expertise, gaps in envisioned technical solutions and business goals could arise, affecting high-quality delivery and performance in shorter spans, thereby impacting the success of modernization projects.

Furthermore, inadequate documentation creates ambiguity as teams need to pay more attention to potential risks, dependencies, and legacy system constraints. This lapse impedes decision-making, leading to poor evaluation of trade-offs with additional resources and time spent for due diligence. In this context, generative AI has the potential to resolve several hurdles associated with modernization significantly. Modernizing applications with Microsoft Azure OpenAI solutions helps enterprises enhance key business metrics, including faster time to market, cost-benefit realization, and improved customer experience.

## Microsoft Azure OpenAI: A change agent for application modernization

Generative AI has sparked a paradigm shift in how enterprises approach complex challenges in their digital transformation initiatives. Microsoft's OpenAI Service integrates the capabilities of GPT models with Azure's enterprise-grade features to empower a wide range of use cases. Similarly, Azure AI Foundry offers differentiating GenAI features that encompass machine learning, foundational models, conversational AI, and custom vision and decision-making tools. The Azure OpenAI Service's ability to process long contexts, provide multi-step reasoning, and integrate seamlessly with enterprise systems enhances efficiency and accelerates innovation. Azure's advanced coding, processing, and robust workflow integration catalyze application modernization strategies and legacy system transformation in the following ways:



**Automated document generation:** Increase development and delivery velocity using Azure OpenAI to understand, generate, and explain high-quality code assistance to create comprehensive documentation, including system architecture diagrams, API documents, and user manuals, by analyzing the existing codebase, system behavior, and user interactions.



**Code analysis:** GenAI's natural language processing capabilities, powered by Azure OpenAI, enable code completion, generation, and explanations. This fosters productivity, facilitates understanding of large codebases, and offers insights into system functionalities, dependencies, and risks. Azure OpenAI's capabilities can rewrite legacy code to modern snippets, modules, or entire components, ensuring enterprise security and privacy protection.



**Code conversion:** Azure OpenAI Service, in combination with Azure Cognitive Services and Azure DevOps, facilitates the automated migration and modernization of legacy code. It leverages advanced AI models to translate legacy programming languages (e.g., COBOL, Visual Basic) into modern languages like Python, Java, or C#, while also refactoring monolithic architectures into microservices using Azure Kubernetes Service (AKS), Azure Functions, and App Service. This solution automates both syntax and semantic conversion, ensures compliance with modern coding standards, and accelerates cloud-native application deployment with minimal manual effort.



**Decision support:** Azure OpenAI enhances decision-making by analyzing data from various sources, including code repositories, issue trackers, and user feedback, driving productivity to new heights. Azure's integrations support customizations for specific contexts and use cases to identify trends, patterns, and anomalies, helping stakeholders make informed decisions.



**Knowledge transfer:** GenAI can facilitate knowledge transfer by creating interactive tutorials, code walkthroughs, and training materials based on analyzing existing code and system behavior. This allows new team members to quickly understand legacy systems.



**Automated testing and validation:** Azure's AI-driven capabilities assist in automated testing and validation by generating test cases, executing tests, and analyzing results. By leveraging ML techniques, GenAI can identify critical test scenarios and prioritize testing efforts, even without detailed documentation.



**Continuous optimization:** GenAI supports consistent optimization by monitoring system performance, identifying improvement areas, and recommending code refactoring or optimization strategies. GenAI identifies technical debt by analyzing code patterns and user interactions.

## Microsoft Azure technologies

GenAI's adaptive learning algorithms, ability to reason, plan, generate, reflect, and relearn can enable continuous improvement that adapts to evolving business needs, ensuring your applications remain robust and aligned with your business objectives.

**As businesses increasingly prioritize agility and scalability with cloud technologies, GenAI emerges as a transformative force in driving successful application modernization initiatives.**

Deriving value from Microsoft Azure Generative AI entails covering an end-to-end spectrum that enables developers to integrate advanced AI solutions and capabilities into applications, contributing to faster modernization. Overall, cloud and AI empower enterprises to modernize their applications holistically using a scalable infrastructure and advanced AI capabilities to deliver innovative solutions that are credible, scalable, repeatable, secure, safe, and easy to operate delivering real value to clients.

## The speed and cost advantage

Anticipate challenges, optimize resource allocation, and make informed decisions that enhance efficiency and cost savings. More importantly, GenAI accelerates the modernization timeline, reducing development costs and achieving greater agility in adapting to a disruptive market and evolving business needs.

**Redefining traditional software practices requires a shift in mindset to embed AI into every aspect of the application modernization pipeline.**

Azure OpenAI Service supports users of all skill levels with intent-driven assisted development, operations, test data, test cases, and security for higher-quality application development, IT effectiveness, threat analysis & remediation, and faster data insights. Here are some essential considerations for leveraging GenAI for application modernization:

- **Intent-based prompt engineering:** Carefully craft prompts to guide AI models by defining clear and specific intents aligned with modernization project tasks, ensuring that the prompts are unambiguous and contextually relevant. Additionally, incorporating diverse examples and edge cases into prompts helps elevate the AI model's robustness. Integrating intent-based prompt engineering into an iterative software development process fosters agility and responsiveness to evolving business requirements.

- **Human intervention:** Human oversight at every stage of the training and validation phases is crucial to endorse AI outcomes and accountability. During model development and deployment, human intervention ensures that AI-driven decisions align with business objectives. Regular monitoring and auditing of AI models allow for timely recourse in case of adverse impacts on users or systems.
- **AI as an enabler at every step, not an accelerator:** GenAI can expedite tasks through automation and predictive analytics. However, AI complements human intelligence and experience. Its primary role is to empower teams, improve efficiency, and facilitate informed decision-making throughout the modernization journey.

## Ensure that the benefits outweigh the risks

It's essential to address AI security bias to ensure the integrity and safety of modernized applications. Implement robust measures to identify, mitigate, and prevent biases in AI algorithms used during modernization. Conduct thorough audits and evaluate AI models to detect anomalies or disparities in outcomes. Organizations must prioritize diversity and inclusivity in data sources, ensuring that training datasets are representative and balanced. Furthermore, post-deployment, ongoing monitoring and validation of AI systems are crucial to swiftly addressing emerging biases or security vulnerabilities. Timely verification safeguards the integrity and reliability of your modernized applications.

## Propel your organization to the next pinnacle of success with us. Here's how.

### Business Case

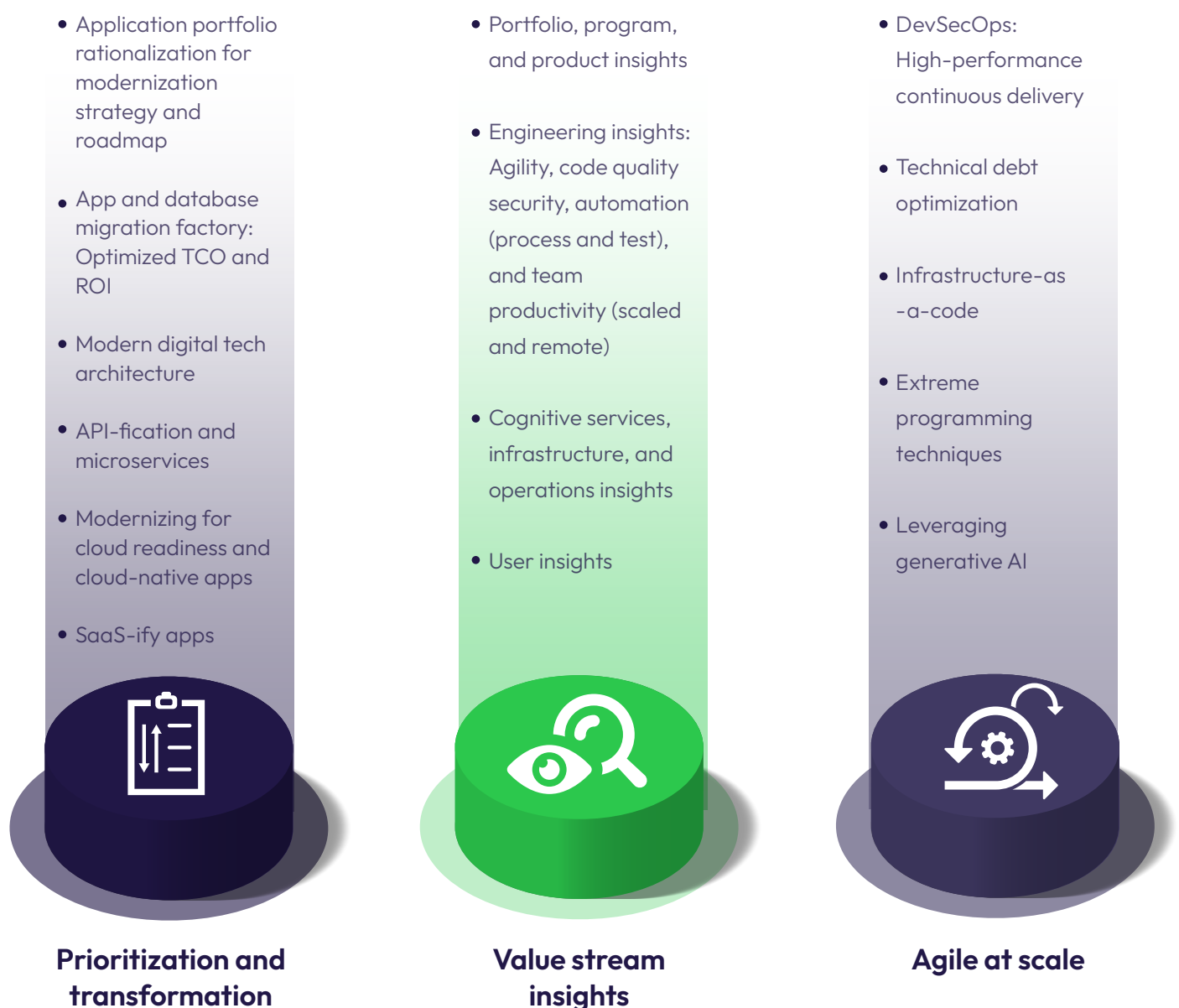
Improve key business metrics significantly, including faster time to market, cost savings, and enhanced customer experience. For example, by modernizing applications, organizations can expect to see the following business results:

- **Faster time to market for new products and features:** By implementing automation, using agile methodologies, improving engineering processes, and adopting a DevOps approach, we can achieve an **80%** increase in time to market.
- **Cost-benefit realization:** Using automation to streamline process execution, we can improve team productivity, resulting in up to **5x** cost-benefit realization year-on-year and more time available to work on other initiatives.

- **Application performance improvement:** By using modern technologies and optimizing application performance, we can improve the user experience, reduce downtime, and increase productivity, leading to a **5x** improvement in application performance.
- **Cost optimization:** With our automated security vulnerability accelerators, organizations can optimize costs on security vulnerability remediation efforts.

## What we offer

We enhance business growth by unleashing the power of technology through our modernization value propositions powered by AI-driven accelerators and strategic partnerships focusing on improved team productivity, boosted engineering efficiency, reduced cost, and faster time to market. Our core application modernization pillars are:



## Tangible business results

**80%** faster time to market for new product features

**5x** cost-benefit realization within 12 months of production deployment

**5x** improvement in application performance

**70%** cost optimization for security vulnerability remediation efforts

**75%** increase in customer traffic

## Expected business outcomes

Our application modernization offerings help businesses accelerate at an unprecedented pace. Organizations increasingly adopt technology-driven strategies to remain competitive in today's digital landscape.

**20% improved** performance within three months from the start of engagement

**10% increased** change stability within three months for visible improvements

**15% faster** return on investment in two to three quarters

**20% higher** quality feedback within three months to demonstrate improvements

**30% higher** customer satisfaction within two quarters to demonstrate improvements

## **Vision to victory: Strategize for success and win customers**

Organizations must look to enhance business growth with a digital-first mindset to accelerate rapidly. Envision a modernization value proposition powered by AI-driven accelerators and strategic partnerships. It all begins with analyzing the current technology stack, business requirements, and application topology and then understanding what sort of modernization is required. Ensure continuous feedback cycles at every project stage by setting up relevant monitoring processes to sustain them for a more extended period to build a culture of continuous improvements.

Future-focused enterprises win big on application modernization projects when they shift their outlook to a vision of embedding AI into every aspect of the application modernization pipeline (discovery, code generation, testing, maintenance, and support). AI-led modernization initiatives will vastly improve team productivity and engineering efficiencies while enhancing time to market and costs. Becoming a leader in modern application development entails building strategic partnerships with hyper scalers and designing proprietary AI platforms and accelerators that aid in quicker time to market for customers to realize better product outcomes.



## About Brillio

Brillio is one of the fastest growing digital technology service providers and the partner of choice for many Fortune 1000 companies seeking to turn disruptions into competitive advantages through innovative digital adoption. We help clients harness the transformative potential of the four superpowers of technology: cloud computing, Internet of Things (IoT), artificial intelligence (AI) and mobility. Born digital in 2014, we apply our expertise in customer experience solutions, data analytics and AI, digital infrastructure and security, and platform and product engineering to help clients quickly innovate for growth, create digital products, build service platforms, and drive smarter, data-driven performance. With 17 locations across the US, the UK, Romania, Canada, Mexico, and India, our growing global workforce of 7,000 Brillians blends the latest technology and design thinking with digital fluency to solve complex business problems and drive competitive differentiation for our clients. Brillio was certified by Great Place to Work® in 2021, 2022, 2023, and 2024.



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