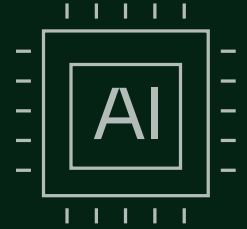


Mainframe application modernization to support front-line workers



Travel and Transportation

Business challenge and opportunity

In many large travel and hospitality businesses—including hotels and airlines—front-line staff still use mission-critical mainframe-based applications to check customer history, generate dynamic pricing, run customer-loyalty schemes, manage inventory and so on. Navigating dozens of legacy text-based interfaces to accomplish these tasks can be a struggle for people accustomed to intuitive graphical interfaces. Given relatively high staff turnover, the screens present a training burden.

Delays and confusion caused by interactions with the legacy apps can also result in poor customer experience. The concern is one reason 98% of organizations report moving at least some of their application portfolio off the mainframe in recent years.¹

A monolithic mainframe architecture can also limit agility. With mainframe skills in short supply, simply maintaining legacy applications eats away at time and budget that could be spent on improving user experience and developing new products.

Agentic AI unlocks new ways to modernize legacy apps for improved flexibility, lower costs and reduced time to market.

Technical challenges

Organizations aiming to migrate off of the mainframe with help from AI, encounter some common roadblocks:

- **Lack of specialist talent** for mainframe technologies, with 70% of leaders across industries reporting difficulty in finding the required skills.²
- **Deep sharing of services** between mainframe applications makes development far more complex and risky than in other environments.
- **Data governance and security considerations** typically require robust guardrails around any AI deployment, demanding expertise that may not already be present in-house and delaying progress.
- **Changing regulatory frameworks** shift priorities, with 94% of leaders saying regulation impacts their approach to modernization.
- **Documentation built up over decades** is often scattered or incomplete, preventing accurate assessment of the as-is state and delaying AI integration.
- **Unclear application dependencies** make it difficult to ensure functional equivalency between legacy and future applications.

Our solution

Using the [Kyndryl Agentic AI Framework](#), Kyndryl helps organizations:

- **Analyze the existing mainframe landscape** and generate both actionable insights and thorough technical documentation using AI agents to develop a clear action plan.
- **Apply an agent-first approach to mainframe modernization** that reduces risk at every stage to deliver faster, higher-quality outcomes. Kyndryl executes modernization programs in radically compressed timelines through our [services-as-software](#) model with 200+ agents and 60+ pre-built agentic workflows
- **Maintain robust governance** with human oversight at every stage and policies built into AI agents, protecting business-critical processes.
- **Introduce policy-as-code capabilities** that dynamically translate business rules, compliance requirements and [operational policies](#) into guardrails for AI agents.
- **Create clean, high-quality code** with agentic AI-powered code optimization to avoid the burden of maintaining a potential “JOBOL” estate.
- **Accelerate functional testing** by using synthetic data and automate the generation of user stories to drive agile engineering.
- **Resolve issues rapidly** with intelligent defect triage at every layer and centralized dashboards to show progress.
- **Transform IT modernization** from a series of labor-intensive transformation programs into a scalable, resilient operating discipline.



Benefits you could achieve

Move beyond legacy systems and enable front-line staff to keep customer journeys running smoothly. Mainframe modernization with agentic AI has the potential to deliver:

- **Incremental results in days, not months:** AI agents accelerate every step of the application landscape transformation, cutting cycle time and reducing reliance on specialist talent.
- **Reduced technical debt:** moving toward cloud-native platforms reduces dependency on legacy skills and tools and frees up budget for innovation.
- **Improved consistency:** a modular architecture with centralized dashboards and real-time insights improves platform resilience and supports standardization for global companies.

One leading global consumer company² already using the Kyndryl Agentic AI framework has achieved:

2-4

weeks time-to-value for a minimum viable product (MVP)

3x

reduction in the cost of migrating and maintaining custom SAP code

80%

reduction in re-coding

Why Kyndryl?

With decades of mission-critical operations experience, we bring deep expertise in designing, building, and managing AI across complex IT estates.

The **Kyndryl Agentic AI Framework** brings together the right governance and security controls and human oversight to enable businesses to move beyond isolated pilots to integrated, intelligent systems. It combines secure, scalable agent orchestration with real-time observability and governance, powered by **Kyndryl Bridge**.

Through **Kyndryl Consult**, we align AI strategy with business outcomes. **Kyndryl Vital** provides proven user-centered design and rapid prototyping. And our trusted delivery experts support frictionless integration and help with reskilling and upskilling to build the foundation for success at scale.

We apply a forward engineering approach—using insights from existing systems to design and deploy future-ready AI agents and architectures that are adaptive, resilient, and scalable. Our method is grounded in open ecosystems, data sovereignty, and transparent decision-making.

And with a carefully selected **alliance ecosystem**—across cloud, data, and AI—we bring the right partners and technologies together to design fit for purpose solutions and orchestrate AI at scale without disrupting the business.

With Kyndryl, AI becomes a core capability—not just a tool—driving productivity, innovation, and growth.



Accelerate your journey to AI-native

Our AI Benchmark Assessment provides a maturity snapshot and personalized roadmap for accelerating the value of AI in your organization.

[Take the assessment](#) →

What's your enterprise vision for AI?

Let's co-create it together.

[Talk to an expert](#) →

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¹ Kyndryl 2025 State of Mainframe Modernization Report, [Kyndryl 2025 State of Mainframe Modernization Research Report | Kyndryl](#)

² This document is current as of the initial date of publication and may be changed by Kyndryl at any time without notice. Not all offerings are available in every country in which Kyndryl operates. The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions. Kyndryl products and services are warranted according to the terms and conditions of the agreements under which they are provided.