
Cloud Catalyst
The AI-ready playbook
A framework for generative AI readiness with cloud migration
Atos
aws

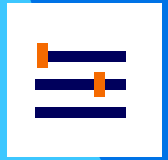
10 essential steps to ensure your business is AI-ready

The next frontier of business transformation is powered by generative AI. Organizations looking to harness the power of AI-driven innovation must first prepare their infrastructure, ensuring they have the right foundation to support complex models, real-time processing, and massive data workloads. Cloud migration is a critical step in this journey – without it, the scalability, flexibility, and efficiency needed to deploy generative AI solutions are out of reach.

Through the CloudCatalyst program, Atos and AWS, provide a streamlined solution for businesses to migrate to the cloud, offering the infrastructure needed to support the next generation of AI technologies. CloudCatalyst accelerates cloud adoption by simplifying the migration process, enabling businesses to unlock the full potential of generative AI while maintaining security and efficiency.

This guide walks you through the **10 essential steps to ensure your business is AI-ready**, leveraging the cloud to unlock the full potential of generative AI. From managing data to optimizing workloads, we cover the key strategies that will prepare your business for the future of AI.

Guiding principles for AI-ready cloud migration framework



Flexibility: The framework must adapt to evolving AI needs, allowing organizations to scale up or down based on real-time demand and technological advancements.

Security first: Data privacy, compliance, and security are foundational. AI-driven systems must comply with regulatory standards while protecting sensitive information.

Data-centric approach: Data is the core driver of AI. Ensuring its availability, accessibility, and governance is paramount.

Continuous innovation: The framework emphasizes ongoing improvement, enabling businesses to innovate and integrate the latest AI advancements.

Sustainability: Cloud environments should be optimized not only for performance but also for reducing environmental impact.

Phase 1: Infrastructure and strategy

Step 1

Assess infrastructure

Evaluate current IT infrastructure and identify gaps affecting AI capabilities.

Step 2

Define AI and cloud strategy

Develop a strategy aligning AI goals with cloud capabilities for future scalability.

Phase 2: Data and cloud integration

Step 3

Prioritize data readiness

Centralize and structure data to make it AI-ready, ensuring accessibility and governance.

Step 4

Select cloud environment

Choose between public, private, or hybrid cloud environments based on AI needs.

Phase 3: Infrastructure optimization

Step 5

Implement AI-optimized infrastructure

Deploy scalable cloud infrastructure with resources like GPUs/TPUs to support AI workloads.

Step 6

Focus on security and compliance

Ensure data security and regulatory compliance with multi-layered security frameworks.

Phase 4: Deployment and automation

Step 7

Enable real-time data processing

Streamline real-time data for AI systems to enable responsive decision-making.

Step 8

Automate workflows

Optimize AI processes and manage costs through automation and intelligent resource allocation.

Phase 5: Continuous evolution and innovation

Step 9

Leverage AI tools for innovation

Use AI tools to accelerate innovation, focusing on personalization and predictive decision-making.

Step 10

Prepare for continuous evolution

Continuously optimize cloud and AI infrastructure to adapt to emerging technologies.

Phase 1

Infrastructure assessment & strategic planning

Step 1: Assess your current it infrastructure

Objective: Evaluate the limitations and readiness of the current infrastructure for supporting AI workloads.

Module: Identify system gaps and performance bottlenecks that hinder AI implementation.

Before embarking on cloud migration, conduct a thorough assessment of your current IT infrastructure. Understand the limitations of your on-premise systems and identify the workloads that need to be modernized. Legacy systems, such as mainframes, may present unique challenges for AI-readiness, particularly in terms of scalability and flexibility. This assessment will serve as the foundation for your migration strategy, ensuring you're building from a realistic starting point.

- Map out legacy workloads that need modernization for AI-readiness, focusing on scalability and flexibility.
- Identify mainframe bottlenecks that could hinder AI implementation and require cloud migration.
- Establish a baseline for cloud migration by understanding your current infrastructure's limitations.

Map out workloads and applications that would benefit from the cloud's scalability and identify those that need modernization, particularly those on legacy mainframes.

Step 2: Define your AI and cloud strategy

Objective: Develop a cloud strategy that integrates AI initiatives, balancing performance, scalability, and regulatory requirements.

Module: Align AI goals with cloud capabilities and define clear KPIs for success.

Generative AI requires a clear vision. Define the business outcomes you aim to achieve with AI, and align them with your cloud migration goals. For example, are you aiming for real-time customer engagement, predictive analytics, or automation of specific business processes?

Cloud services like **Amazon SageMaker** and AI-powered analytics can offer tailored solutions to support these goals.

- Align AI goals with cloud capabilities to support real-time processing and data-driven decision-making.
- Leverage AWS services like **SageMaker** for AI model training and deployment tailored to your business needs.
- Create a clear cloud roadmap that includes AI deployment as a core business strategy.

Align AI ambitions with cloud capabilities to create a strategy that prioritizes agility and innovation.

Phase 2

Data centralization and cloud integration

Step 3: Prioritize data readiness

Objective: Centralize and structure data to ensure it is AI-ready and compliant with governance policies.

Module: Organize and centralize data to make it easily accessible and optimized for AI workloads.

Generative AI is data-hungry. Moving to the cloud isn't just about infrastructure; it's about how data will be managed and processed. Data governance, quality, and accessibility are critical components of AI readiness. Ensure that data is centralized, accessible, and optimized for AI training. AWS offers scalable storage solutions, such as **Amazon S3 Glacier**, which provide cost-effective options for archiving non-critical data while ensuring access to the data that matters most.

- Centralize and optimize data for AI, ensuring it's accessible and structured for training complex models.
- Use **Amazon S3 Glacier** for cost-effective storage of non-critical data while prioritizing high-performance environments for critical workloads.
- Ensure data governance by setting rules for data security and access in a cloud environment.

Make data a central focus of your cloud strategy, ensuring it is structured and accessible for AI training and real-time analytics.

Phase 2

Step 4: Choose the right cloud environment

Objective: Select the appropriate cloud model – public, private, or hybrid – that supports your AI goals and scalability needs.

Module: Evaluate cloud models to ensure flexibility, scalability, and compliance for AI operations.

Decide whether your business will benefit most from a public, private, or hybrid cloud environment. While public cloud environments offer unparalleled scalability, hybrid cloud solutions may be necessary for businesses with compliance or data sovereignty concerns.

Hybrid environments also enable a gradual migration from on-premise to cloud infrastructure, providing flexibility while you prepare for full generative AI deployment.

- Public, private, or hybrid? Decide which cloud model fits your AI and regulatory needs best.
- Hybrid cloud solutions offer flexibility, allowing businesses to manage on-premise and cloud data seamlessly.
- Scalability and compliance should guide your choice of cloud environment for AI workloads.

Consider regulatory constraints, scalability, and flexibility when choosing between public, private, or hybrid cloud environments.

Phase 3

AI-optimized infrastructure implementation

Step 5: Implement AI-optimized infrastructure

Objective: Deploy cloud infrastructure designed to meet the computational demands of AI workloads.

Module: Set up high-performance AI infrastructure with scalable resources like GPUs/TPUs.

To support the heavy computational needs of generative AI, your infrastructure must be optimized for AI workloads. Services like Amazon EC2 instances equipped with GPUs and TPUs can handle complex neural networks and data models. Additionally, cloud-based serverless computing helps manage fluctuating workloads without the need for constant infrastructure management, allowing AI processes to scale seamlessly.

- Amazon EC2 instances with GPUs/TPUs ensure your infrastructure can handle AI's heavy computational needs.
- Serverless computing helps manage fluctuating workloads, reducing the need for continuous infrastructure management.
- Optimize performance by using cloud-based infrastructure built for AI workloads and scaling.

Use cloud solutions that are tailored to the demands of AI, ensuring you have access to high-performance computing when you need it.

Phase 3

Step 6: Focus on security and compliance

Objective: Secure sensitive AI data and ensure compliance with industry regulations.

Module: Implement multi-layer security and compliance frameworks to protect data and AI models.

AI models deal with sensitive data, so security must be a top priority during migration. Ensure that your cloud infrastructure complies with GDPR, HIPAA, or other relevant regulations. AWS offers over 300 security services, including identity and access management (IAM) and data encryption solutions, which are critical for protecting AI data pipelines.

- Multi-factor authentication (MFA) and IAM protect AI models and data pipelines.
- Data encryption services ensure that sensitive AI data remains secure at all stages of the pipeline.
- Compliance with regulations like GDPR or HIPAA is crucial, especially for AI-driven industries like healthcare.

Prioritize compliance and data security, particularly when dealing with sensitive datasets that feed into AI models.

Phase 4

AI deployment and workflow automation

Step 7: Enable real-time data processing

Objective: Streamline real-time data into AI systems, enabling responsive decision-making and insights.

Module: Implement real-time data streaming to feed AI models with live information.

Generative AI thrives on real-time data. To enable real-time insights and decision-making, businesses must implement cloud-based systems that support continuous data processing and analysis. AWS services like Kinesis and Lambda offer scalable solutions for streaming and processing data in real time, allowing businesses to leverage AI-powered insights without delay.

- Amazon Kinesis and AWS Lambda allow real-time data streaming and processing for instant AI insights.
- AI thrives on real-time data, enabling dynamic, informed decisions based on live analytics.
- Cloud services must support continuous data flows, ensuring AI models remain up-to-date and responsive.

Real-time data processing is essential for AI-driven decision-making and customer engagement, so implement cloud services that support continuous data flows.

Phase 4

Step 8: Automate workflows and optimize cost

Objective: Automate AI processes and manage costs through intelligent resource allocation.

Module: Automate workflows and optimize cloud costs for efficient AI processing.

The cloud provides opportunities for automation, allowing businesses to optimize operations and reduce costs. AI can be integrated into these workflows to streamline tasks, from automating customer service to predictive maintenance in manufacturing. In addition, tools like AWS Auto Scaling and Cost Explorer help businesses monitor and optimize their cloud spend, ensuring they pay only for what they use.

- AWS Auto Scaling enables automatic adjustment of resources to meet AI workload demands without overspending.
- AWS Cost Explorer helps monitor cloud usage and identifies opportunities for cost savings in AI projects.
- Automation tools streamline operations, reducing the need for manual intervention and enhancing AI efficiency.

Use automation to improve efficiency and manage costs, leveraging AI to automate repetitive tasks and workflows.

Phase 5

Continuous evolution and AI-driven innovation

Step 9: Leverage AI tools for innovation

Objective: Use AI and machine learning tools to unlock new opportunities for innovation post-migration.

Module: Deploy AI tools for innovation to enhance personalization and predictive decision-making.

AWS provides a wide range of AI tools and services like Amazon SageMaker, which allows businesses to build, train, and deploy AI models quickly and efficiently. These tools are designed to accelerate the AI development process, helping businesses innovate faster. By using pre-built models and machine learning frameworks, businesses can reduce the time to market for new AI-driven products and services.

- Amazon SageMaker provides a comprehensive suite for building, training, and deploying AI models.
- Pre-built AI models allow businesses to reduce time-to-market and innovate faster.
- AI tools in the cloud help organizations accelerate innovation by enabling quick iterations and updates.

Leverage pre-built AI tools and frameworks to accelerate innovation and reduce development costs.

Phase 5

Step 10: Prepare for continuous evolution

Objective: Ensure your cloud and AI infrastructure is built for continuous scalability and innovation.

Module: Continuously assess and optimize infrastructure to stay ahead with emerging technologies.

Generative AI is constantly evolving, and so must your cloud strategy. The cloud provides businesses with the flexibility to scale, adapt, and evolve as AI technologies advance. Businesses must continually assess their cloud environments, optimize performance, and update their AI strategies to stay ahead of the competition.

The beauty of cloud technology is that it allows for continuous innovation, meaning your infrastructure can grow with your AI ambitions.

- AI is constantly evolving, so ensure your cloud infrastructure can scale and adapt as new AI technologies emerge.
- Continuous monitoring of your cloud environment allows for ongoing optimization and performance improvements.
- Cloud-based AI infrastructure ensures you can quickly adapt to industry changes and future AI developments.

Prepare for continuous development by ensuring your cloud infrastructure is adaptable and future-proof.

Start your AI-readiness journey with CloudCatalyst

The future of business lies in generative AI, and cloud migration is the foundation for unlocking its full potential. By following these 10 steps, businesses can ensure they have the right infrastructure to support AI innovation while optimizing costs and improving scalability.

Atos and AWS, through the CloudCatalyst program,offer organizations a seamless path to cloud migration and AI readiness, enabling organizations to leverage the full power of generative AI.

Don’t wait – future-proof your business today.

Start your CloudCatalyst journey today and prepare your infrastructure for the AI-driven future.

To learn more, visit **atoscloudcatalyst.com**

About Atos

Atos is a global leader in digital transformation with 105,000 employees and annual revenue of c. €11 billion. European number one in cybersecurity, cloud and high-performance computing, the Group provides tailored end-to-end solutions for all industries in 69 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos is a SE (Societas Europaea) and listed on Euronext Paris.

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