

# Impetus GenAI Offerings

Boost business performance, create breakthrough innovation, and unlock new sources of growth

## GenAI + Impetus = Customer Acceleration & Elevation:

The excitement surrounding GenAI is reminiscent of the early days of the internet, with the potential to disrupt industries and change the way we work. To make Generative AI a reality, our customers need to architect their infrastructure and advance their data estate to harness its global possibilities. This foundation is essential for GenAI-driven chatbots and summarization of today and tomorrow's multi-modal GenAI applications with video, audio, verbal, and other complex data forms.

The key question for customers is, "How can they become 'GenAI Ready' and stay ahead?" The pace of advancement is dizzying, and you can't afford to wait. Impetus has laid out critical imperatives and principles for implementing Generative AI in CX/EX, marketing/sales, software engineering, product R&D, and other industry-specific solutions. Our approach is focused on fully capitalizing on the promise of GenAI while de-risking our customer's data, processes, governance, and security. Together, we can reshape their future and help them stay ahead in this era of transformation.



**Given the immense promise of GenAI, Impetus remains clear-eyed on the challenges customers will encounter, such as:**

- Establishing a data infrastructure and foundation that is efficient and scalable for GenAI
- Deciding between open-source and proprietary technology (e.g., LLMs)
- Identifying proper use cases that not only deliver value but are trusted and secure
- Deployment of large language models (LLMs) and integration of first-party data
- Ethical and responsible GenAI practices amidst a fluid regulatory landscape
- Advancing from traditional MLOps to account for GenAI requirements (LLMOps)
- Integrating GenAI with enterprise applications and workflows

## Leveraging GenAI – the right way

Getting GenAI right has tremendous upside.

Research from Deloitte found that when organizations get the combination of strategy, technology, and change capability right, there could be as much as US\$1.25 trillion gain in the market cap among Fortune 500 companies. Conversely, when they get it wrong, there's as much as US\$1.5 trillion in the market cap at risk. The strongest value driver is when the technology investments are closely aligned to the enterprise strategy: Organizations that achieve this double their market cap increases versus the baseline approach.

# Navigate the GenAI Frontier with Impetus

Our rich heritage in cloud and data engineering seamlessly translates to GenAI. We account for the challenges and employ a framework that helps customers avoid a future filled with missed market opportunities, limited ability to monetize GenAI solutions, and the inability to truly scale GenAI. Customers can ensure their readiness with Impetus along the following dimensions and gain confidence to employ GenAI solutions that maximize the value they deliver to their customers.

## 1. Craft GenAI Strategy and Architecture

Understand your readiness for GenAI and develop a strategic roadmap to deploy GenAI across your organization with use case prioritization, governance guardrails, and LLM selection

### a. Impetus Services/Accelerators

- i. **GenAI Readiness Assessment** – GenAI maturity and roadmap
- ii. **Data & AI Labs** – Design solution architecture and build proof value prototypes to accelerate the path to production

### b. Customer Spotlight

- i. **Leading Global Bank** – Establish GenAI strategy and underlying architecture based on maturity and need of customer

## 2. Establish Data Foundation

Unify your data for GenAI with an infrastructure that is efficient, scalable, and future-proofs LLM deployment and accessibility while accounting for adaptation and integration with proprietary data

### a. Impetus Services/Accelerators

- i. **Data Platform Accelerator for GenAI** – Unify data sources and pipelines for GenAI
- ii. **LLM Deployment and Accessibility** – Ensuring the LLM is available for enterprise applications and/or systems with the ability to monitor and maintain it
- iii. **LLM Data Integration** – Blending public knowledge with proprietary information essential to enterprise use case workflows

### b. Customer Spotlight

- i. **Global Payment Services Provider** – Enabling semantic search for business-matching use case
- ii. **Fortune 500 US Airline** – Utilized Amazon Bedrock to deploy LLM and integrated to support operations and planning solutions
- iii. **Leading Digital Insurance Provider** – Created GenAI data platform on AWS (SageMaker, Lambda)

### 3. Implement Responsible and Secure GenAI Governance

Put into effect necessary safeguards and balance competing ethical priorities for GenAI that is secure, responsible, and accountable for your organization

#### a. Impetus Services/Accelerators

- i. **Synthetic Data Generation** – Generative Adversarial Networks (GANs) to learn patterns and augment training data
- ii. **Data Bias Detector** – Analyze training datasets to identify bias arising from an imbalance
- iii. **Transparency Manager for GenAI** – Compile and disseminate publicly available metadata on LLM capabilities and limitations to all stakeholders, making it searchable along with details on internal fine-tuning

#### b. Customer Spotlight

- i. **Leading Digital Insurance Provider** – Created synthetic data similar to the original claims data with GANs to address privacy concerns
- ii. **Fortune 500 US Airline** – Creating framework for LLM Guardrails

### 4. Contextualize and Enrich GenAI

Bring GenAI to your data and augment your LLMs with enterprise, domain and context-specific information to deliver more nuanced and effective AI applications

#### a. Impetus Services/Accelerators

- i. **Fine-tuning LLMs** – Retrain GenAI models with domain relevant and current data on a continuous basis for accurate content generation
- ii. **Prompt Libraries** – Design and manage highly descriptive prompts that feed LLMs and provide added context
- iii. **Retrieval Augmented Generation (RAG)** – Establish AI framework that pulls data from external and proprietary sources feeding models up-to-date and accurate data to improve responses
- iv. **Embeddings and Vector DBs** – Enable creation of custom embeddings as vectorized representations of structured or unstructured data, along with their storage and retrieval from vector databases
- v. **RLHF Accountability** – Integrate reinforcement learning with human feedback, making it easier for domain experts to label data, model edge cases thereby rectifying generation of inaccurate content such as hallucinations

#### b. Customer Spotlight

- i. **Leading Financial Services Provider** – Enabled LLM-based generation of content with terms and conditions from a wide range of product offerings
- ii. **Cyber and Signal Intelligence Leader** – Enabled pre-training of open-source LLaMa2 model for intelligence-specific tasks
- iii. **Media and Entertainment Leader** – Enabled enterprise search via natural language querying and summarization with LLM and RAG, evolving from traditional keyword search to enrich data for downstream applications

## 5. Scale GenAI Across the Enterprise

Design and deploy practices with seamless technology integration to industrialize GenAI operations and application development

### a. Impetus Services/Accelerators

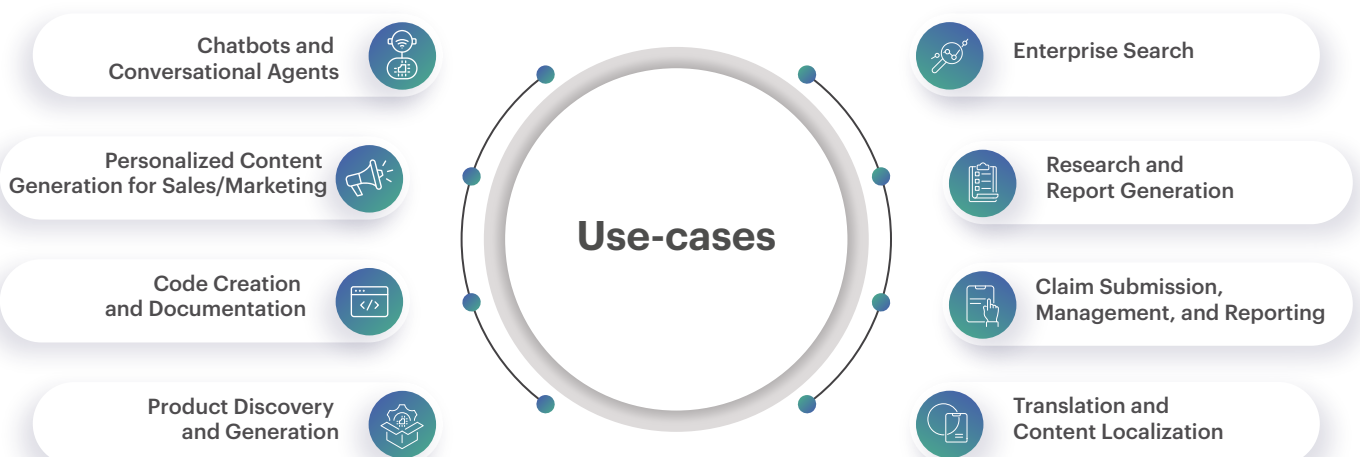
- i. **LLMOps** – Operationalize GenAI applications built with LLMs that are fine-tuned on enterprise data for desired tasks utilizing AWS Bedrock
- ii. **App Orchestration** – Design and deploy orchestration layer including the incorporation of critical human-in-the-loop processes.

### b. Customer Spotlight

- i. **Leading Global Airline** – Enabled the deployment of LLMs utilizing AWS Bedrock for airline operations and planning
- ii. **Leading Global Airline** – Created scalable platform leveraging LLMOps for deployment and monitoring of various public and private LLM's running on Bedrock.

## Valuable Use Cases Unlocked with Impetus

Once you address the growth frontiers, you can transition to Applied GenAI with the use cases below and so much more.



And many, many more...

# End-to-end GenAI Services from Impetus

Offerings designed to support your needs no matter the stage of your GenAI journey

## Impetus GenAI portfolio

### GenAI Readiness Assessment



GenAI maturity and path to evolve from rule-based analytics and traditional ML

### Data and AI Labs



#### Design Lab

Collaboration with business and technology to establish GenAI strategy and architecture



#### Build Lab

Develop GenAI solution in your environment with your data for proof of value and a roadmap to production

### Impetus GenAI Services

- Data Unification for GenAI
- LLM selection, integration, and development
- MLOps & LLMOps
- GenAI solution development

Proven frameworks and accelerators for your end-to-end GenAI journey

## Get Started on your GenAI Journey with Impetus

### Not sure where to start your journey?

Complete a readiness assessment and jointly establish a strategy and underlying architecture with your business and technology stakeholders with a Design Lab.

### If you have a GenAI architecture in place

Transform your plans into a solution prototype for a proof of value and an accelerated path to production with a Build Lab.

### If you want a "Show me GenAI" experience

Leverage our Build Lab to develop a low fidelity GenAI solution such as Enterprise Search with Kendra, which will yield a quick win and demonstrable proof of value.

## Additional areas of focus or emphasis to remember when discussing 'Getting Started' with customers

1. Getting the data estate right for GenAI
2. Address privacy and security concerns
3. Start internal pilot and test extensively with stakeholders and employees
4. Avoid having hallucinations that harm your business
5. Promote culture and talent model to support GenAI
6. Prize transparency to be upfront about interactions people are having with a machine with constant reminders
7. Continuous validation and testing of models and outputs
8. Do your due diligence, set up processes and guardrails to track biases, data quality and other issues
9. Take it slow, encourage experimentation, learning and have fun

## IMPETUS

Impetus Technologies solves the data, AI, and cloud puzzle, by combining unmatched expertise in cloud and data engineering. Impetus offers data platform engineering, AI/ML, DevOps, application modernization, and more. For more than a decade, Impetus has been the 'Partner of Choice' for several Fortune 500 enterprises in transforming their digital nuclei and driving unmatched innovation and growth.

To learn more, visit [www.impetus.com](http://www.impetus.com) or write to [inquiry@impetus.com](mailto:inquiry@impetus.com)

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