Deloitte.

The Technology, Media & Telecommunications Generative AI Dossier

A selection of high-impact use cases

By Deloitte AI Institute

About the Deloitte AI Institute

The Deloitte AI Institute™ helps organizations connect all the different dimensions of the robust, highly dynamic, and rapidly evolving Artificial Intelligence ecosystem. The AI Institute leads conversations on applied AI innovation across industries, with cutting-edge insights,to promote human-machine collaboration in the "Age of With™."

The Deloitte AI Institute aims to promote the dialogue and development of AI, stimulate innovation, and examine challenges to AI implementation and ways to address them. The AI Institute collaborates with an ecosystem composed of academic research groups, start-ups, entrepreneurs, innovators, mature AI product leaders, and AI visionaries to explore key areas of artificial intelligence including risks, policies, ethics, the future of work and talent, and applied AI use cases. Combined with Deloitte's deep knowledge and experience in artificial intelligence applications, the Institute helps make sense of this complex ecosystem, and as a result, delivers impactful perspectives to help organizations succeed by making informed AI decisions.

No matter what stage of the AI journey you are in: whether you are a board member or a C-Suite leader driving strategy for your organization—or a hands-on data scientist bringing an AI strategy to life—the Deloitte AI Institute can help you learn more about how enterprises across the world are leveraging AI for a competitive advantage. Visit us at the Deloitte AI Institute for a full body of our work, subscribe to our podcasts and newsletter, and join us at our meet-ups and live events. Let's explore the future of AI together.

www.deloitte.com/us/AIInstitute

Introduction

The advent of Generative AI has delighted and surprised the world, throwing open the door to AI capabilities once thought to be still far off in our future. With a remarkable capacity to consume and generate novel outputs, Generative AI is prompting excitement and stimulating ideas around how this type of AI can be used for organizational benefit. Far more than a sophisticated chatbot, Generative AI has the potential to unleash innovation, permit new ways of working, amplify other AI systems and technologies, and transform enterprises across every industry.

The Generative AI Dossier is a compendium that highlights 60 of the most compelling use cases for Generative AI across six major industries:

- **Consumer** (which includes Consumer Products, Retail, Automotive, Lodging,Restaurants, Travel, and Transportation)
- **Energy, Resources, and Industrial** (ER&I)
- **Financial Services** (FSI)
- **Government & Public Services** (GPS)
- **Life Sciences & Health Care** (LSHC)
- **Technology, Media, and Telecommunications** (TMT)

For each of these industries, we explore Generative AI use cases that can address enterprise challenges in new ways, permit more and greater capabilities across business functions, and deliver advantages in efficiency, speed, scale, and capacity. In this specific cut of the larger report, we're focusing on Technology, Media, and Telecommunications use cases.

As with any type of AI, there are potential risks. We use Deloitte's Trustworthy AI™ framework to elucidate factors that contribute to trust and ethics in Generative AI deployments, as well as some of the steps that can promote governance and risk mitigation. Trustworthy AI in this respect is: fair and impartial, robust and reliable, transparent and explainable, safe and secure, accountable and responsible, and respectful of privacy.

To be sure, this collection of use cases is just a sample among myriad other applications, some of them yet to be conceived. As Generative AI matures as a technology and organizations move forward with using it for business benefit, we will likely see even more impressive and compelling use cases. The applications highlighted here can help spark ideas, reveal value-driving deployments, and set organizations on a road to making the most valuable use of this powerful new technology.

Nitin Mittal
Global Generative AI Leader
Deloitte Consulting LLP

Costi Perricos
Global Office of Generative AI Leader
Deloitte UK
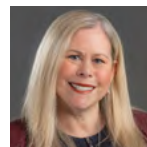
Lynne Sterrett
US Generative AI Market Activation Leader
Deloitte Consulting LLP

Deborshi Dutt
US AI Strategic Growth Offering Leader
Deloitte Consulting LLP

Six key modalities

One of the primary differences between more traditional AI and Generative AI is that the latter can create novel output that appears to be generated by humans. The coherent writing and hyper-realistic images that have captured public and business interest are examples of Generative AI models outputting data in ways once only possible with human thought, creativity, and effort. Today, Generative AI models can create outputs in six key modalities.

Text
Written language outputs presented in an accessible tone and quality, with details and complexity aligned with the user's needs.

Examples include summarizing documents, writing customer-facing materials, and explaining complex topics in natural language.

Code
Computer code in a variety of programming languages with the capacity to autonomously summarize, document, and annotate the code for human developers.

Examples include generating code from natural language descriptions and autonomously maintaining code across different platforms.

Audio
Much like textual outputs, audio outputted in natural, conversational, and even colloquial styles with the capacity to rapidly shift among languages, tone, and degrees of complexity.

Examples include Generative AI-powered call centers and troubleshooting support for technicians in the field.

Image
Textual or visual prompts lead the model to create images with varying degrees of realism, variability, and "creativity."

Examples include simulating how a product might look in a customer's home and reconstructing an accident scene to assess insurance claims and liability.

Video
Similar to imagery, Generative AI models can take user prompts and output videos, with scenes, people, and objects that are entirely fictitious and created by the model.

Examples include autonomously generating marketing videos to showcase a new product and simulating dangerous scenarios for safety training.
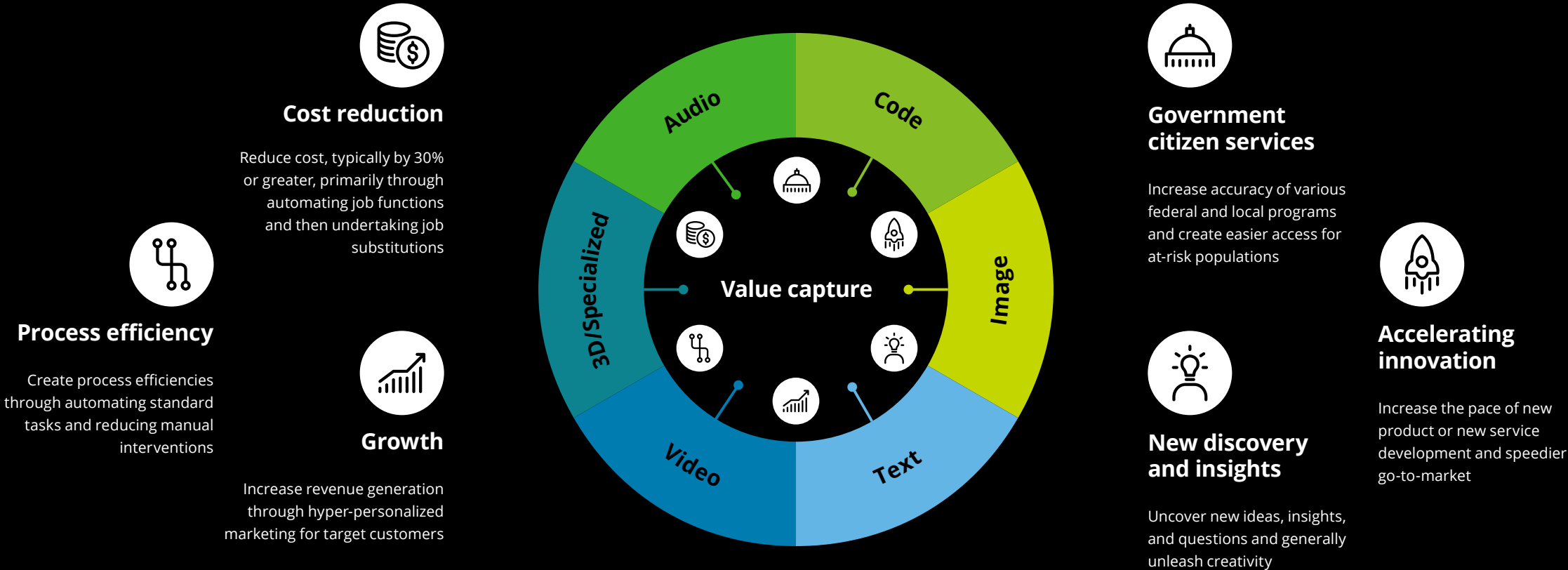
3D/Specialized
From text or two-dimensional inputs (e.g., images), models can extrapolate and generate data representing 3D objects.

Examples include creating virtual renderings in an omniverse environment and AI-assisted prototyping and design in a purely virtual space.

By understanding these modalities, organizations are empowered to think through and better understand the kinds of benefits Generative AI could permit. For each use case described in this dossier, there may be more than one value-driving modality. A chatbot text output could be presented as simulated audio; a generated image could be extended into a video. Ultimately, the Generative AI use case and the value the organization seeks will determine which output modalities can contribute the greatest advantages and outcomes.

Broad categories of value capture from Generative AI

The value that Generative AI use cases can enable can be conceived across six dimensions: cost reduction, process efficiency, growth, innovation, discovery and insights, and government citizen services. To be sure, a single use case can drive more than one value capture, but to help paint the vision for how Generative AI can be used to move the needle on competitive differentiators and operational excellence, the use cases described in this dossier are each associated with a primary value capture.

Cost reduction

Reduce cost, typically by 30% or greater, primarily through automating job functions and then undertaking job substitutions

Process efficiency

Create process efficiencies through automating standard tasks and reducing manual interventions

Growth

Increase revenue generation through hyper-personalized marketing for target customers

Government citizen services

Increase accuracy of various federal and local programs and create easier access for at-risk populations

Accelerating innovation

Increase the pace of new product or new service development and speedier go-to-market

New discovery and insights

Uncover new ideas, insights, and questions and generally unleash creativity

Value capture

Audio · Code · Image · Text · Video · 3D/Specialized

The data-rich Technology, Media & Telecommunications (TMT) industry faces a range of opportunities for digitization, as well as a challenge in managing and analyzing vast amounts of information. TMT businesses have seen some success in leveraging AI to reduce manual effort and improve efficiency, and while some enterprises are well on their way to AI maturity, others are just getting started. Generative AI can be the enabling technology that allows TMT businesses at all levels of AI maturity to accelerate digital transformation and unleash entirely new capabilities and business outcomes.

With Generative AI, some of the greatest potential value is found in accelerating efficiencies through digitization. It can help shift the organization from being product-focused to customer-centered. Using Generative AI to access insights and correlations in structured and unstructured enterprise data helps align offerings with customer demand, drive operational agility and productivity, and transform how TMT enterprises operate, create products, and engage customers. The Generative AI use cases are already apparent: creating more effective marketing campaigns, accelerating copywriting and research, deriving new product concepts, and supporting software engineering. By integrating Generative AI with the organization's

existing AI ecosystem, the business is positioned to create hyper-personalized content for customers, craft and target ads to specific users, and permit translation at scale. This can drive new and more business while also catering to customer expectations for customized products and services.

With Generative AI, some of the greatest potential value is found in accelerating efficiencies through digitization.

Generative AI can also be used as an integral tool for risk management processes. Analyzing real-time network data, models can enable simultaneous, continuous anomaly and pattern detection, catching discrepancies and providing a root cause analysis. By monitoring connectivity between critical hardware, software and data lakes, systems leveraging Generative AI could not only flag network and infrastructure irregularity but then also analyze it and automate response mechanisms.

New opportunities often come with new challenges, and the risks and complexity with Generative AI can be significant. What is more, the global regulatory environment around AI is still in flux, challenging TMT enterprises to anticipate government rules and implement the governance and compliance processes that are essential for AI programs, including those using Generative AI. Still, challenges and risks notwithstanding, TMT companies face a transformative opportunity to focus on the customer, streamline and accelerate processes, free up human capital for creative, value-driving tasks, and ultimately, help companies grow, innovate, and succeed.

New opportunities often come with new challenges, and the risks and complexity with Generative AI can be significant.
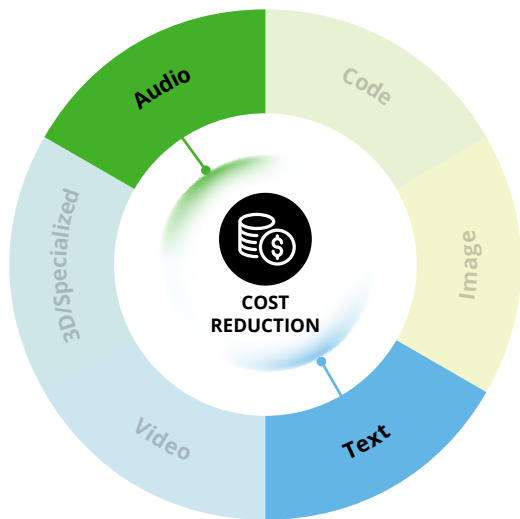
Conversational chat for customer service
(Virtual Voice Customer Assistants)

With a Generative AI-enabled voice assistant, customer concerns can be remedied faster and in line with company policies and standards while maintaining or even enhancing customer satisfaction.

Issue/opportunity

When it comes to customer support, there are often high operational costs associated with customer care. This owes to customer service agents (CSAs) processing large volumes of cases, even though the resolutions may be simple and could be automated. More traditional chatbots can be limited because they rely on pre-programmed dialogue, which may not contain all of the answers a customer is likely to ask. A Virtual Voice Customer Assistant, powered by an LLM, could overcome the challenges with conversational dialogue, CSA capacity, and even contribute to continuous improvement in knowledge management.

How Generative AI can help

Personalized customer self-service
Combining an LLM with Conversational AI can deliver customer support in a local language, tailored to customer preferences. Virtual troubleshooting can personalize the customer experience, and a virtual assistant could also provide product recommendations and generate offers that increase customer satisfaction.

Interactive Q&A
Automating personalized responses to common customer inquiries during the pre- and post-sales process can reduce customer response times and increase cost savings.

Context summarization
At the end of a customer interaction, it is necessary for an agent to document the context of the interaction. While critical to the business, it is an expensive, time-consuming activity that results in increased agent handle time. With Generative AI, the process takes moments.

Conversational chat for customer service

Managing risk and promoting trust

Reliable
While models can be highly accurate, they remain susceptible to outputting false or incomplete information, which could lead to a negative customer experience with the chatbot. This underscores the need for human validation and risk mitigation across the AI lifecycle to limit the potential for hallucinations.

Robust
Automating elements of customer service can increase capacity and speed, but it is important to ensure customer support quality is maintained in the process of deploying and using a Generative AI-enabled chatbot. The deployed virtual customer assistants need to be sufficiently robust to provide equally personalized and empathetic support across all customer regions.

Potential benefits

Cost reduction
A reduced case load for CSAs enables reallocation to complex cases or value-driving tasks.

Improved real-time speech AI
Customers can engage in natural language with a chatbot that understands technical and company-specific language, as well as human intent and sentiment.

Knowledge management
The virtual agent can summarize notes and update resources based on new case resolutions.
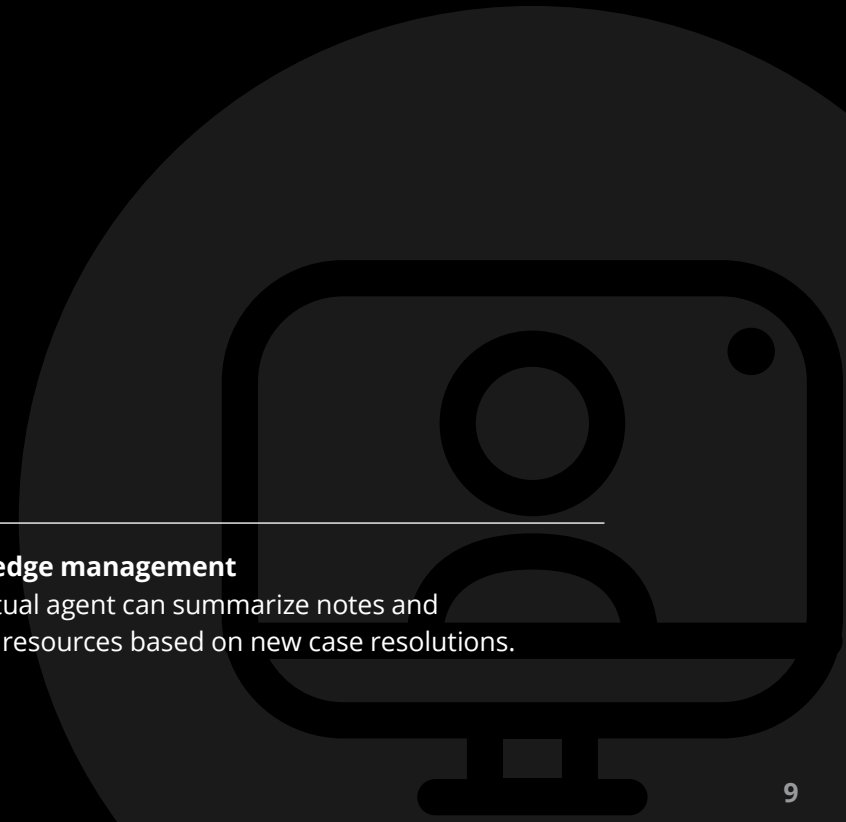
Generative AI for gamers

(Game Content Development)

Developers can leverage Generative AI to maintain and update their game with new assets and content in line with user community requests and interests.

Issue/opportunity

Game development requires a massive up-front investment in time, resources, and capital. AAA games can cost tens of millions of dollars to develop and take years to complete. These costs will only rise as players increasingly demand more complex games, more post-release support, and more frequent content updates. Generative AI provides the gaming industry with an opportunity to bend the cost curve through enhanced development efficiency, while also simultaneously meeting player demands.
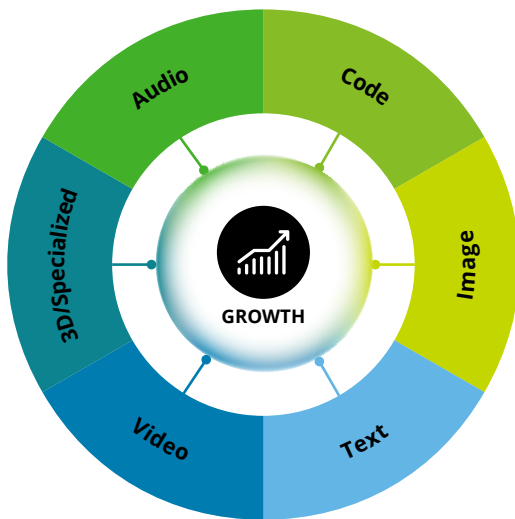
How Generative AI can help

Ongoing content development
Post-release, developers can rapidly generate and deploy new gaming assets as expansions or microtransactions, such as seasonal or downloadable content (e.g., new characters, weapons, and skins). Developers can use text prompts to generate new content in line with the current game and even community desires and upload those assets to the existing game.

GROWTH — Audio, Code, Image, Text, Video, 3D/Specialized

Generative AI for gamers

Managing risk and promoting trust

Accountable
Generated content resulting from a model trained with proprietary third-party data may lead to copyright claims if it is deemed to be too similar without substantial variation.

Security
The player's personally identifiable information could be fed into the models as they interact within the game, which raises risks around cybersecurity and regulatory compliance. The collection of PPI, even inadvertently, places an obligation on the organization to secure the data as it is accessed, transferred, and stored.

Fair and impartial
Generated assets may over-index on player segments providing feedback or residing in specific regions. This uneven sampling of the input data could lead to bias in what assets are generated, and it may lead to missed opportunity and revenue, as some of the customers are ignored.

Potential benefits

Greater efficiency for greater creativity
By automating the process of creating game content, developers have more capacity to work on creative game designs and explore new, innovative ideas.

Cater to gamers
More immersive, controllable, responsive, engaging, and unique experiences for gamers (based on community requests and existing popular assets) has a direct impact on the player lifetime value.

Drive new revenue
When add-on content can be generated with minimal human involvement, it creates new revenue streams with minimal investment.
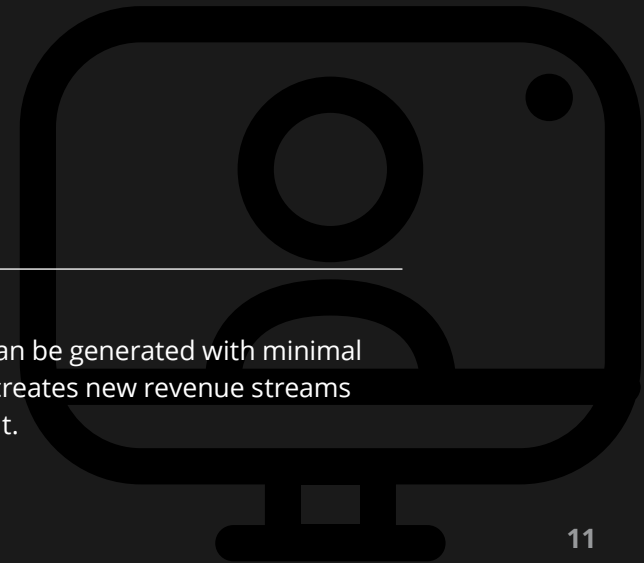
Annotation with automation

(Code Summarization and Documentation)

Automating code summarization and documentation frees up developers to focus on higher-value tasks, while also enabling code explainability for technical and non-technical stakeholders.

Issue/opportunity

Traditionally, a thoroughly commented and structured codebase is difficult to maintain due to resource turnover, time constraints, and siloed knowledge. This step is often deprioritized in code development. The complexity of code and limited comments slows the process of upscaling new resources on an existing codebase. What is more, lack of communication across development teams without clear code commenting or summarization leads to silos of knowledge where each developer only knows certain portions of the code.
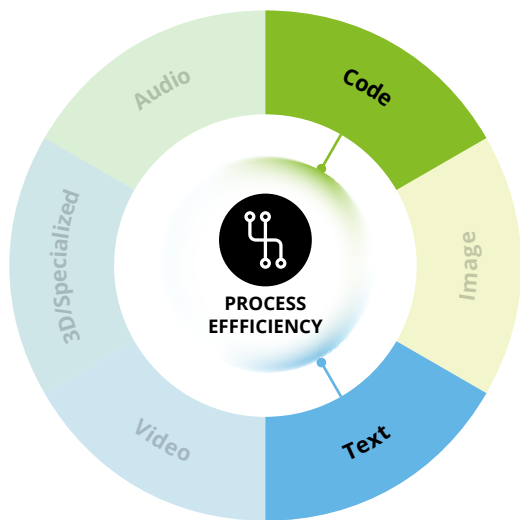
How Generative AI can help

Reducing code documentation efforts
Generative AI can be used to review code and create output summaries and application documentation in a concise, human-readable format. It can also automatically pick up important code blocks and add comments for explanation or summarization.

Preparing summaries for multiple audiences
Code summaries can be autonomously generated for non-technical audiences, such as business analysts, product managers, and functional stakeholders.

Generating code from natural language descriptions
Code can be created from the structured descriptions (e.g., behavior-driven development) from non-technical audiences, such as business analysts and product managers, without having to write it manually from scratch, thus reducing time-to-development while increasing efficiency and productivity.

Annotation with automation

Managing risk and promoting trust

Robust
Generated code documentation may lack business context. Generative AI can support documenting the "what" and "how" of the code, but the "why" may still need to be added by the development team. In addition, code summaries may miss nuances and interdependencies in the codebase. High-level summaries may need to be supplemented with insights or interdependencies from other relevant files.

Transparent and explainable
Domain/developer-specific variables and comments may not be interpretable and could result in inaccurate summarization or documentation. Clearly named variables and aliases used in the code will improve Generative AI's documentation.

Potential benefits

Resource efficiency
Using Generative AI returns significant time savings for developers, allowing them to focus on producing code, rather than adding commentary to existing code.

Understandable codebase
Generative AI summaries and documentation are inserted in a consistent writing style that can be understood by any development team member.

Improved onboarding
Summaries and documents help new developers rapidly understand existing code and software, expediting the onboarding process.
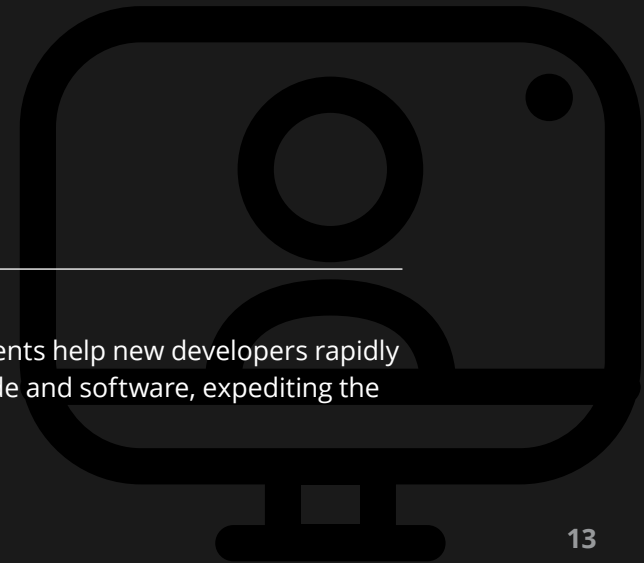
Content creation with AI

(Generative AI-Enabled Creative Tools)

Content creation can be facilitated and enhanced with Generative AI tools that minimize the need for manual editing and time-consuming content management.

Issue/opportunity

Content creators and managers are faced with large volumes of data that require considerable time to generate, edit, and oversee. There are significant time and resource investments needed for video and image editing, and the volume of content creates challenges around data management and finding the right content at the right time. Amid this, content creators face tight deadlines that require high levels of efficiency for content management and editing.
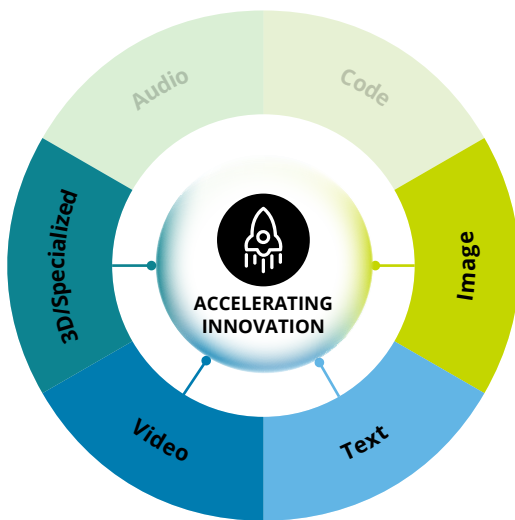
How Generative AI can help

Creative assistant tool
Generative AI can be used to create imagery and apply edits using descriptive commands. Conversational editing, text-to-template, text-to-image, and more allow users to expedite the editing phase of the content creation process.

Picture editorial
Producers can automate footage management with video-to-text Generative AI to evaluate and create tags for scenes and content. Text-to-video commands (e.g., "add more rain to this scene") can be used to enhance and accelerate the editing process.

AI "reshoots"
Content creators can use scripts and 3D scans of actors to generate new content, alter footage to create more realistic special effects, and allow studios to make edits without the need for reshoots.

Content creation with AI

Managing risk and promoting trust

Responsible
Generative AI tools may be trained with large databases of media and content, some of which may be copyright protected. As a result, the model outputs may include aspects of a creator's or studio's work or style that are not attributed to them, which raises legal and civil risks for the organization.

Reliable
Noticeable changes in style and brand quality due to Generative AI content creation and editing may erode consumer trust in the brand and content.

Privacy
If bad actors access the underlying models or applications, it could contribute to the spread of fake content on behalf of the organization, leading to misinformation. Model owners should ensure strong privacy and access controls to mitigate this risk.

Potential benefits

Greater efficiency
Content management stakeholders can gain efficiencies by leveraging creative tools to facilitate work and even create net-new content across the production lifecycle.

Improved content quality
Generating novel content can supplement the human creative process and potentially lead to a higher quality product.

Content tailored to the audience
With Generative AI, creators can hyper-personalize content with prompts driven by consumer trends and interests.
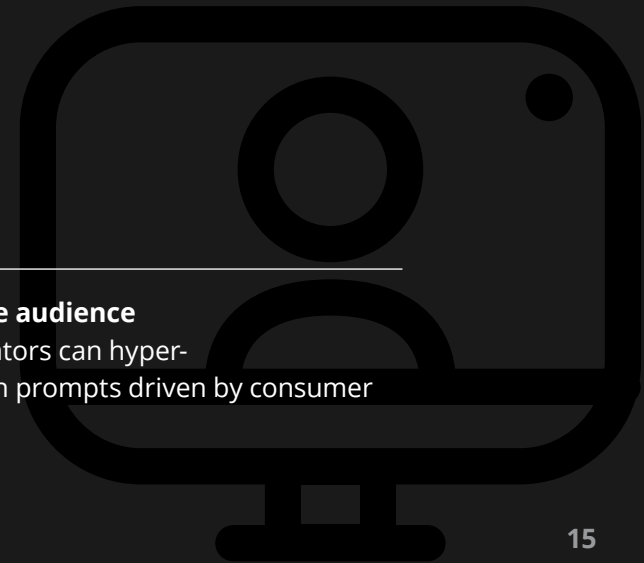
Translate specs for sales

(Technical Sales Knowledge Management)

Generative AI can help sales staff quickly find and translate technical specifications to customers, as well as document and summarize insights from customer interactions.

Issue/opportunity

When sales staff are promoting technology offerings (e.g., SaaS, hardware, devices, infrastructure, cloud, data, analytics, AI, and IoT), they need a technical understanding of the offering, as well as the ability to quickly find the right technical specifications. Yet, it can be challenging to translate technical specs in a way that is clear and meaningful when responding to a customer's questions.
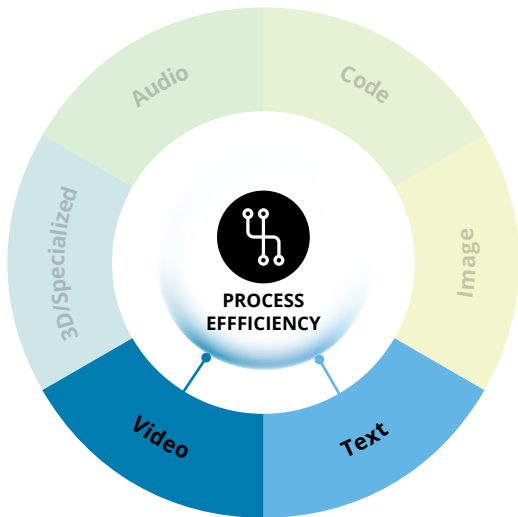
How Generative AI can help

Technical spec summarization
Generating summaries of technical specifications for customers based on targeted text-based query entries can help the sales staff understand which products meet customer requirements. It may also help staff suggest features and integrations that align with the customer's existing technology stack and vendors.

Knowledge management update
Generative AI can be used to update sales case history to support knowledge management, such that similar technical inquiries in the future can be addressed using previous resolution steps and spec summaries.

Automated technical demos
By training a model on demonstration scripts and sample interactions, staff can generate demonstrations showcasing key features and benefits of the solution, all tailored to specific clients and use cases.

PROCESS EFFFICIENCY

Audio
Code
Image
Text
Video
3D/Specialized

Translate specs for sales

Managing risk and promoting trust

Privacy
Customer data (e.g., sales case history, customer tech stack/vendors) needs to be processed by the model, making it necessary to continuously monitor model outputs and safeguard customer data to mitigate privacy risks.

Reliable
If the information derived from the model is inconsistently accurate or reliable, it will have a direct impact on customer interest, understanding of the offering, and trust in the organization. It's advisable to establish processes for human validation of Generative AI outputs.

Potential benefits

Efficiency with automation
Less manual effort required in responding to technical sales inquiries allows staff to focus on customer needs and opportunities.

Tailored to the customer
Greater personalization in responses and demonstrations improve the customer sales experience and increases chances for conversion.

Enabling other stakeholders
With Generative AI, staff can rapidly create content to inform sales and marketing materials, as well as specific customer or partner questions.

Marketing content multiplier

(On-Brand Publishing)

Using Generative AI, marketing content generation can be cheaper, quicker, and more effective, while still preserving the company's brand identity.

Issue/opportunity

When multiple authors are contributing to a piece of marketing or business content, there are often quality and consistency issues with tone and brand values. Authors are challenged to consistently balance product promotion with thought leadership and insight. As such, on-brand publishing is a significant time and cost investment that requires a long-term commitment to generating content that establishes the organization or its leaders' subject matter authority. Frustratingly, the return on investment for on-brand publishing can be difficult to measure because the impact itself is complex and challenging to quantify.

How Generative AI can help

Cohesive content generation
Generative AI systems can be trained with on-brand content to mimic the style of company marketing materials and generate new, high-quality content rapidly and on demand.

Ideation with generation
Marketing departments can leverage Generative AI to quickly create multiple versions of content in various styles to identify the most compelling and persuasive option.

Tailored, personalized messaging
With Generative AI, organizations can easily create multiple versions of the same on-brand marketing tailored to different customers and audiences.

Elevate content quality
The language quality of marketing materials can be enhanced by using Generative AI to help with phrasing, grammar, company style, and adherence to company values.

18

Marketing content multiplier

Managing risk and promoting trust

Transparency
Personalized advertisements may be customized based on data collected or purchased from individuals. This may be off-putting to consumers who realize the organization has such broad access to their data, leading to potential harms to brand reputation and consumer trust in the enterprise. One way to mitigate this outcome is to ensure data collection and usage policies are transparent and communicated meaningfully to the consumer.

Responsible
Content produced by Generative AI systems may not be subject to the same protections as human-generated content. Companies need to be wary of infringing on copyrighted material used to train Generative AI systems.

Security
When brand data is used to train Generative AI, there is a risk of data leaks that could result in sensitive information or IP being divulged to competitors. Companies need to ensure that their proprietary information is safely stored, transferred, and used, as well as monitor model outputs to validate that protected information is not being revealed.

Potential benefits

Instant marketing
Companies can create unlimited content better tailored to their brand and customers, iterating through multiple drafts as needed.

Time and cost savings
As Generative AI systems instantly generate content, human staff can shift to an editorial role, and marketing departments may be able to reassign workers to other tasks.

Diversity in marketing
With the ability to easily create content across various formats, styles, and topics, companies enjoy greater flexibility in how they reach their customers. It also allows companies to more rapidly adapt to marketing trends.

Language translation at scale
(Content Localization)

Generative AI can be used to quickly and easily scale content across regions by translating and converting text and audio into regional languages.

Issue/opportunity

The ability to create and translate content at scale can be a competitive differentiator for multinational enterprises, but it can also command significant time and resources, and rapid, on-demand translation may be difficult to achieve.
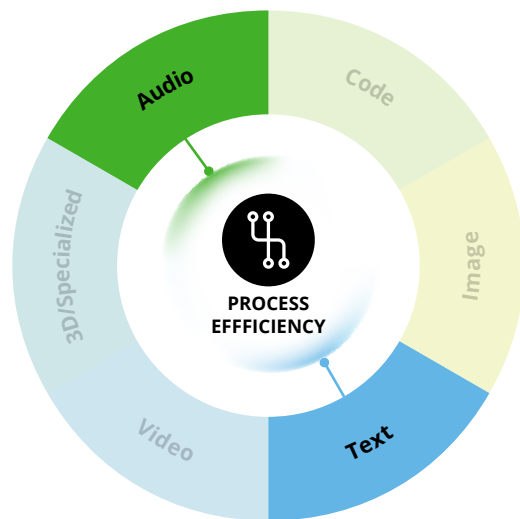
How Generative AI can help

Tools for custom localization and quality assurance
Generative AI can be used to help organize and manage complex file types, analyze content before translation to optimize localization, and integrate glossaries, term bases, and language tools into workflow.

Content personalization across industries
AI-powered content personalization can supercharge localization efforts by improving engagement, building brand loyalty, and increasing conversions.

Speech recognition during translation
Generative AI can be leveraged to enable voice user interfaces (VUI), transcribe video and audio content into text, and simultaneously translate spoken content into the target language.

PROCESS EFFFICIENCY

Audio · Code · Image · Text · Video · 3D/Specialized

Language translation at scale

Managing risk and promoting trust

Fair and impartial
Bias in the data used for content personalization could lead to unequal and unfair recommendations for certain groups of customers. In addition, AI applications are often trained on datasets from significant languages, which means LLMs may have lower accuracy rates for less common languages and alternative dialects.

Transparent and explainable
Messaging and tone may change with language translation, which may negatively impact the text or audio being generated and the overall quality of the content. Localization should be audited to make sure that the messaging remains consistent with the original intent.

Potential benefits

Enhancing translation
Translation processes using Generative AI can lead to improved speed, accuracy, and scalability.

Improving the customer experience
A wider availability of language resources with the quality and speed enabled by Generative AI promotes a high-quality user experience.

Ensuring quality
Organizations can leverage Generative AI to automate quality assurance for the localization of digital assets by providing more accurate natural language processing.

Technician support on the go

(Telco Network Maintenance)

Generative AI-enabled simulations can drive network maintenance speed and effectiveness to help field technicians quickly identify and resolve root causes of network issues.

Issue/opportunity

When working in the field, network technicians must reference thousands of documents and procedures to find guidance on resolving network problems and outages. Without access to these troves of information, remediation efforts may be delayed, hampering operations and customer satisfaction.
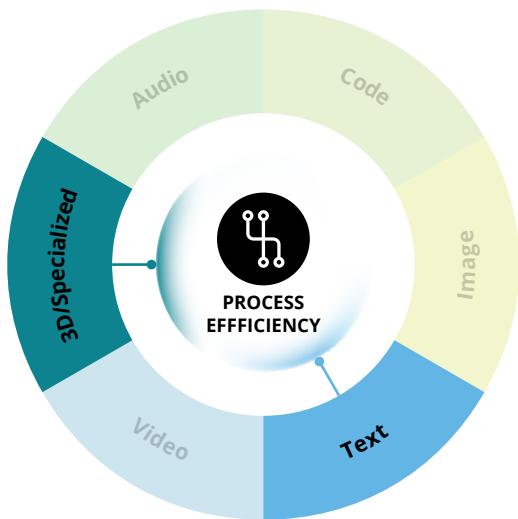
How Generative AI can help

Network ops and maintenance
Network technicians can leverage an LLM to power their search for solutions to customer network issues and accelerate troubleshooting. Augmented retrieval generation and summarization from internal databases and customer chat history can generate the recommended resolution steps and explanations for network engineers.

Network optimization
LLMs can help technicians understand network behaviors and create action plans to support network capacity planning and performance. This helps network planning and design, which historically has required high levels of reporting, analysis, and on-site visits.

Audio · Code · Image · Text · Video · 3D/Specialized

PROCESS EFFFICIENCY

Technician support on the go

Managing risk and promoting trust

Reliable
With the potential for an LLM to output factually incorrect information, there is a risk that network troubleshooting may be unproductive or even introduce new problems for network operations.

Responsible and accountable
Given the importance of resolving network issues in a timely manner, it is important that humans take ownership of network issues and supplement the Generative AI recommendations and optimization planning with their own judgment and domain understanding.

Potential benefits

Improved effectiveness
Using an LLM can help increase visibility into the reasons for outages and support productivity by streamlining network remediation actions, all of which moves toward customer satisfaction.

Personalized support
With rapid access to customer queries, relevant documents, and previous actions, the network technician can better cater to customer needs.

Enhancing chip innovation

(Semiconductor Chip Design & Manufacturing)

Generative AI can be used to iterate chip designs by having designs "compete" across a set of performance dimensions.

Issue/opportunity

With demand for evermore powerful semiconductor chips, design complexity is rising. While semiconductor sizes continue to shrink, density scaling becomes a challenge, since upgraded features are required to fit on perpetually smaller chips.
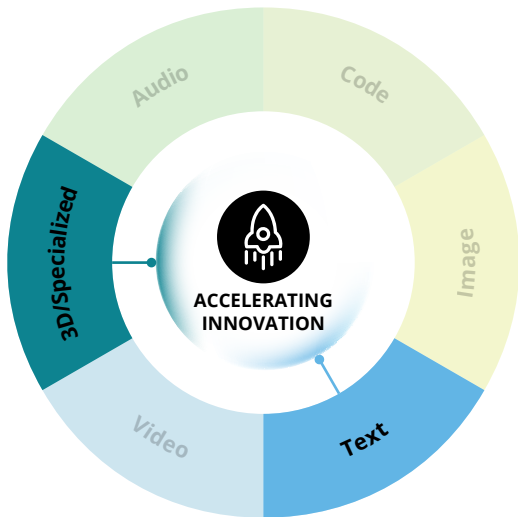
How Generative AI can help

Iterative chip design
Generative AI can generate and iterate chip designs and improve the outputs by having chip designs "compete" across a set of performance dimensions. At each new iteration, chip parameters are tweaked based on learnings from the best performing designs in past iterations. These models are trained on existing layouts to learn patterns and constraints and generate new layouts that meet specific design requirements.

Audio · Code · Image · Text · Video · 3D/Specialized

ACCELERATING INNOVATION

Enhancing chip innovation

Managing risk and promoting trust

Security
With the generation of novel designs, there is a risk of IP leakage and data breaches for proprietary chip designs and technical specifications generated by the LLM that could severely damage the organization's competitive advantage. There should be rigorous security protocols in place to protect against this.

Responsible
When using Generative AI for design, the organization needs to consider how to secure copyrights or patents and protect the IP of chip designs that are moved into production.

Explainable
For complex simulation processes, the organization needs the capacity to understand how and why the model determined a scenario or design to be optimal. Design validation requires users and stakeholders to be able to understand the reason for the outputs.

Potential benefits

Cost and time
By shortening the development lifecycle, the enterprise can reduce total development costs.

Create new ideas
Generative AI can help improve designs or discover entirely novel designs that optimize performance based on specific criteria, such as power consumption, performance, location, and manufacturability.

Tech specs on demand
(Field Sales Assistant)

Generative AI can help operations and frontline staff quickly find and translate technical specifications to enable faster knowledge retrieval.

Issue/opportunity

Technology offerings require technical depth of understanding and the ability to find the right technical specifications in a timely manner. When it comes to translating technical specs and responding to customer technical questions, operations and frontline staff can be challenged to translate the information and effectively communicate it to the customer. Part of the issue owes to the time-consuming and tedious process of scouring vast amounts of unstructured information and knowledge documents that contain the specifications and answers customers are seeking.

PROCESS EFFFICIENCY

Audio · Code · Image · Text · Video · 3D/Specialized
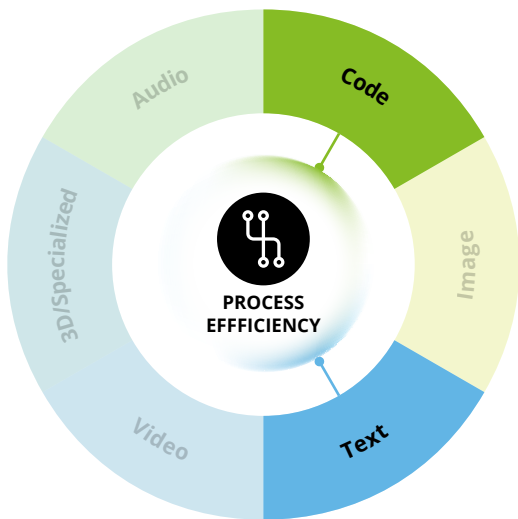
How Generative AI can help

Spec summarization and search
Generative AI can be used to create summaries of technical specifications based on targeted text-based query entries to help understand which products meet customer requirements. It can suggest features and integrations that align with customer's existing technology stack and vendors, as well as provide links to articles or an internal knowledge base for future reference.

Knowledge management update
Sales case histories can be used to update knowledge management so similar technical inquiries in the future can be rapidly addressed with previous resolution steps and summarizations.

Automated technical demos
Generative AI can be used to automate the creation of software demonstrations tailored to specific clients and use cases. This is achieved by training on demo scripts and sample interactions to generate demonstrations showcasing a solution's key features and benefits.

Tech specs on demand

Managing risk and promoting trust

Privacy
Because customer data is used as a component of responding to technical inquiries, the organization needs to take steps to continuously monitor and safeguard customer data and ensure sensitive information does not leak as the Generative AI model is used by a variety of stakeholders.

Reliable
Generative AI models are susceptible to hallucinations or factual inaccuracies, making human validation essential for trust in the outputs and the decisions they inform. What is needed is a verification process to ensure the accuracy and reliability of information derived from the model (e.g., spec summarization, demos), as it can have a direct impact on answering customer questions, and by extension, sales and customer satisfaction.

Potential benefits

Faster answers for customers
When Generative AI can quickly consult and summarize technical specifications, it leads to less manual effort on the part of operations and frontline staff when responding to technical sales inquiries.

Tailored to the customer
With greater personalization of responses and demos, the enterprise can improve the customer sales experience and increase chances of conversion.

Assisting with sales
Generative AI can be used to create content that supports sales and marketing processes and addresses specific customer or partner questions.
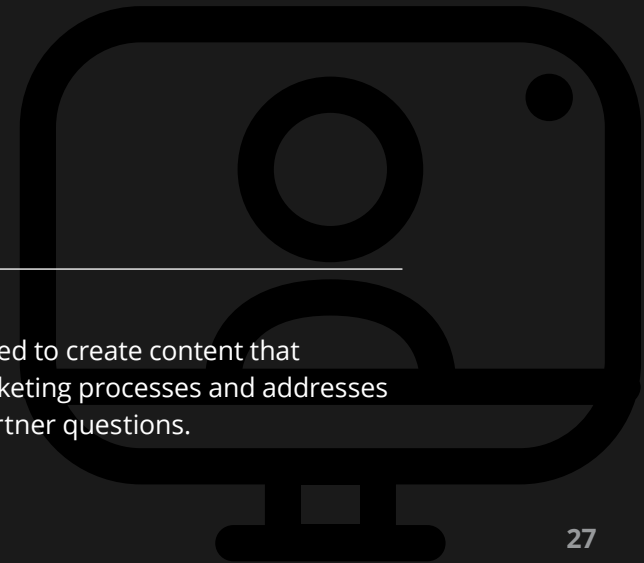
Conclusion

Getting the most value from Generative AI

These are the early days of Generative AI, but the technology is rapidly maturing. As it does, organizations in every industry will probe how this type of AI can contribute to their business and open doors to transformative opportunities. As such, an important part of understanding and working with Generative AI is shaping the vision for the future, acknowledging both the potential benefits and the risks.

In this Generative AI-enabled era, governance and risk mitigation are business imperatives. The challenges organizations face with traditional AI are amplified in this new arena. A commitment to the trustworthy development and use of Generative AI will only become more important as the capabilities grow and governing bodies shape rules for their application.

Still, there is also a risk in waiting to embrace Generative AI. The use cases described in this dossier are a starting point for exploring how this powerful technology can be used to improve the enterprise today and prepare it to lead in the future.

Beena Ammanath
Global Deloitte AI Institute Leader, Deloitte AI Institute United States, Lead
Deloitte Consulting, LLP

Francisco Barroso
Global Generative AI Market Activation Leader
Deloitte Consulting LLP

Sulabh Soral
Deloitte AI Institute United Kingdom, Lead
Deloitte United Kingdom

Contact us

Kate Schmidt
US Deloitte AI Institute Leader
Deloitte Consulting LLP
kateschmidt@deloitte.com

Ivana Savic Vucenovic
Global Office of Generative AI Program Leader
Deloitte Touche Tohmatsu
ivucenovic@deloitte.com

Deloitte AI Institute

Beena Ammanath
Global Deloitte AI Institute Leader, Deloitte AI Institute United States, Lead
Deloitte Consulting, LLP
bammanath@deloitte.com

Audrey Ancion
Deloitte AI Institute Canada, Lead
Deloitte Canada
knuttall@deloitte.com

Naser Bakhshi
Deloitte AI Institute Netherlands, Lead
Deloitte Netherlands
nbakhshi@deloitte.nl

Yousef Barkawie
Deloitte AI Institute Middle East, Lead
Deloitte United Arab Emirates
ybarkawie@deloitte.com

Dr. Bjoern Bringmann
Deloitte AI Institute Germany, Lead
Deloitte Germany
bbringmann@deloitte.com

Jefferson Denti
Deloitte AI Institute Brazil, Lead
Deloitte Brazil
jdenti@deloitte.com

Tiago Durao
Deloitte AI Institute Portugal, Lead
Deloitte Portugal
tdurao@deloitte.com

Roman Fan
Deloitte AI Institute China, Lead
Deloitte China
rfan@deloitte.com

Nicolas Griedlich
Deloitte AI Institute Luxembourg, Lead
Deloitte Luxembourg
ngriedlich@deloitte.lu

Jan Hejtmanek
Deloitte AI Institute Central Europe, Lead
Deloitte Central Europe
jhejtmanek@deloitte.com

Prashanth Kaddi
Deloitte AI Institute India, Lead
Deloitte India
pkaddi@deloitte.com

Chris Lewin
Deloitte AI Institute Asia Pacific Lead
Deloitte Singapore
chrislewin@deloitte.com

Masaya Mori
Deloitte AI Institute Japan, Lead
Deloitte Japan
mmori@deloitte.com

Dr. Kellie Nuttall
Deloitte AI Institute Australia, Lead
Deloitte Australia
knuttall@deloitte.com

Wessel Oosthuizen
Deloitte AI Institute Africa, Lead
Deloitte Africa
woosthuizen@deloitte.com

Sulabh Soral
Deloitte AI Institute United Kingdom, Lead
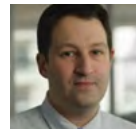Deloitte United Kingdom
ssoral@deloitte.com

Anne Sultan
Deloitte AI Institute France, Lead
Deloitte France
asultan@deloitte.com

Philipp Wendland
Deloitte AI Institute Germany, Program Manager
Deloitte Germany
pwendland@deloitte.com

Endnotes

1. "Overview," Urban Development, The World Bank, accessed September 7, 2023, https://www.worldbank.org/en/topic/urbandevelopment/overview.

2. Darrell M. West, "Reforming federal procurement and acquisitions policies," Brookings, The Brookings Institution, published April 3, 2023, https://www.brookings.edu/articles/reforming-federal-procurement-and-acquisitions-policies/#:~:text=The%20federal%20government%20purchases%20around.

3. Rick Childs, Tony Rinkenberger, and Carmen Sessoms, "The Denials Challenge: A Cross-functional Approach to Denial Prevention and Management," Change Healthcare, October 2017. www.beckershospitalreview.com/pdfs/Change%20HC_Webinar%20Slides_Nov17.pdf

4. Tai-Seale M, Olson CW, Li J, Chan AS, Morikawa C, Durbin M, Wang W, Luft HS. Electronic Health Record Logs Indicate That Physicians Split Time Evenly Between Seeing Patients And Desktop Medicine. Health Aff (Millwood). 2017 Apr 1;36(4):655-662. doi: 10.1377/hlthaff.2016.0811. PMID: 28373331; PMCID: PMC5546411. https://pubmed.ncbi.nlm.nih.gov/28373331/

Deloitte.