



## GENERATIVE AI AND THE FUTURE OF AI

### Abstract

Generative AI is no longer a thing of the future; it is already here and a part of our lives. In the coming years, artificial intelligence will have an even greater impact on the way we live, work, and operate businesses. It uses a large volume of training data that annotators feed into it using existing artefacts. The generative AI model reflects the characteristics of training data but does not replicate or repeat it.



## What is generative AI?

Generative AI produces a range of content items, including text, images, videos, audio, and synthetic data, in seconds. While generative AI has been around since the 1960s, it was only in 2014 that it could

produce realistic images and audio, thanks to the generative adversarial networks (GANs).

A leading energy provider in the UK already answers 44% of their customer

service emails using AI. Another cloud-based software company in India has reduced their time on a task from 8-10 weeks to a few days by incorporating AI into its workflows.

## How generative AI is evolving?

Text generative AI is already helping researchers, content writers, office employees, and more. The current AI models are also good at producing images using natural language prompts from

humans. However, they still do not produce original content.

Next-generation AI models will understand human psychology to innovate and creatively perform more complex tasks. As

the AI models evolve, they will make even more realistic images and videos, making **detecting deep fakes a priority.**

## Applications of generative AI – Current and future

Generative AI is evolving fast and is becoming an integral part of businesses. As consumers of products and services, we are already using AI, whether we know it or not. Here are some of the current and future applications of generative AI.

### Audio, music, and voice

Mimic realistic human voice and use it in audio clips, music, or voice messages. In the future, this may become an invaluable tool for music composers, podcasters, vloggers, and songwriters who want to create novel content faster. It may also

create music in real-time in video games. As technology evolves, the voice will even have emotion, expression, and inflexion that we see in human interaction. This will help in audio dubbing, real-time translation, narrations, and voiceovers.

## Creative designing

Designers and architects can use generative AI to create prototypes of new products and home/office interiors. It will be possible to simply feed the details of the material and the properties of the finished product, and the AI model will generate a step-by-step process to develop the final item. This will also revolutionise the product development and manufacturing industry by significantly reducing the time it takes to launch a product.

Airbus used AI designing to create 'bionic partitions' that are 45% lighter in weight than humans designed. This technology uses 3D printing, also called additive manufacturing, based on a digital model.

## Video games

Generative AI will help video game developers conceptualise and develop immersive environments such as landscapes, terrains, objects, humans, and architecture. This greatly **augments the capabilities of video game designers**

and saves their time while they work on gameplay mechanics, puzzles, and engaging stories.

It can create non-human characters, such as animals, orcs, and aliens, that interact with the players hyper-realistically without following a pre-defined script. The games will adapt and react to the players' interactions as they progress in real time without the need for preset scenarios or workflows.



## Interactions in the Metaverse

Generative AI will revolutionise the way humans interact in a digital domain in the future. The interactions may be in a

3D environment through Virtual Reality (VR) and Augmented Reality (AR). Life-like and realistic avatars will bring these

environments to life for more dynamic actions and interactions with human users.

## The biggest concerns about generative AI

While generative AI enables faster innovation and efficient work, it also raises questions about privacy, employee redundancy, and brand integrity. Here are some of the issues enterprises implementing generative AI need to address –

### Distribution of offensive content

Generative AI creates content automatically based on NLP-based human prompts. While this can be hugely productive, it can also cause harm if the prompts make the AI model learn undesirable information. For example, an AI-generated email without

human review could contain racial, sexual, or other offensive language that the model learnt inadvertently. If the employees are unaware of the AI model's role in sending the email, this could create big conflicts. The content must meet the company's ethical standards, support the brand

values, and follow a strict framework continuously under human surveillance. While AI can augment human capability and work with less workforce, it cannot completely replace humans.

### Copyright and legal violation

Humans use massive amounts of data, including text, images, and videos, to train the AI model. This information comes from internal sources of the company or external sources such as the Internet. The data source for creating text and images is unknown. This could be a problem for businesses, especially high-risk ones such as banking that handles large funds or a pharmaceutical firm using AI to develop new drugs.

Infringement of a company's intellectual property can put the AI user in a legal battle that could cost money, time, and reputation.

### Data privacy concerns

Large Language Models (LLMs) may have used training data sets that contain Personally Identifiable Information (PII). If the owner of that information sees it online, it could be difficult for him/her to trace it and request the business to remove it. Businesses that use generative AI based on LLMs must ensure that the model does not embed PII, and if it happens, they can easily trace and remove it to remain compliant with data privacy laws.

### Disclosure of sensitive information

Generative AI is making the model accessible to everyone. While easy access to the technology is great, it could also lead to an employee inadvertently disclosing sensitive information online. For example, an employee could upload an email with the company's pricing model, or a medical researcher could upload a patient's information on generative AI, exposing the strategy to third parties or competitors.

While this could be unintentional, it will result in a breach of trust and legal ramifications. Businesses must have clear guidelines, communication channels, and governance models emphasising the responsibility for guarding sensitive information and intellectual property (IP).

### Unintentional bias

If there is any bias in the AI model training data, it could show up in the results it generates. Businesses that use LLMs for specific applications must ensure there is no bias, intentional or unintentional, in the data.

### Impact on the morale of employees

AI can handle several daily activities that human resources currently do. This could include writing emails, blogs, reports, code, and summaries. Ethical businesses are investing in re-skilling employees who may be redundant due to AI taking over their tasks. For example, workers can upskill

themselves through effective, prompt engineering rather than doing a job that AI does better.

Ethical businesses can expect massive growth and prepare for negative impacts on employees by upskilling or cross-skilling the workforce.

### Provenance

The massive data an AI model consumes could have questionable origins, be without consent, and have bias. Social influencers and AI systems themselves enhance the inaccuracy of data further. The accuracy of the AI system depends on the data corpus and its provenance.

### Lack of interpretability and trustworthiness

AI associates data elements with one another by grouping facts in an abilistic manner. However, tools such as ChatGPT do not always reveal the source of the data, which puts a question mark on its trustworthiness. While analysts expect to have a casual explanation for the outcomes, it does not always happen. This is where humans need to interpret the plausible explanation of an outcome rather than taking it at face value.

Till the AI models have a certain level of trustworthiness that sustains without human intervention, one must be careful about using them in areas that directly affect human lives.



## Best practices to make the generative AI model effective

Technologies and practices that ensure AI trust and transparency are important to have a robust model. Decision-makers should follow this guideline for generative AI models such as LLMs –

### Start with a mock environment

Before implementing an AI model on live systems and for external customers, test it in a mock environment internally. Involve internal stakeholders and employees and run real-life use cases so there are no hallucinations when the system goes live.

### Ensure transparency

It is best to let the employees, customers, and stakeholders know that they may interact with an AI model at certain places, such as a chatbot. You can do this by clearly

labelling AI-generated information or the system the people interact with. This sets the expectations right and avoids any confusion.

### Perform due diligence

Generative AI is not a fire-and-forget model. It needs robust guardrails to prevent it from going off-track. Validate its results regularly by testing the model and monitoring its performance in the live environment. This resolves any issues with biases or trustworthiness and lowers the effort humans have to make in interpreting the AI-model output.

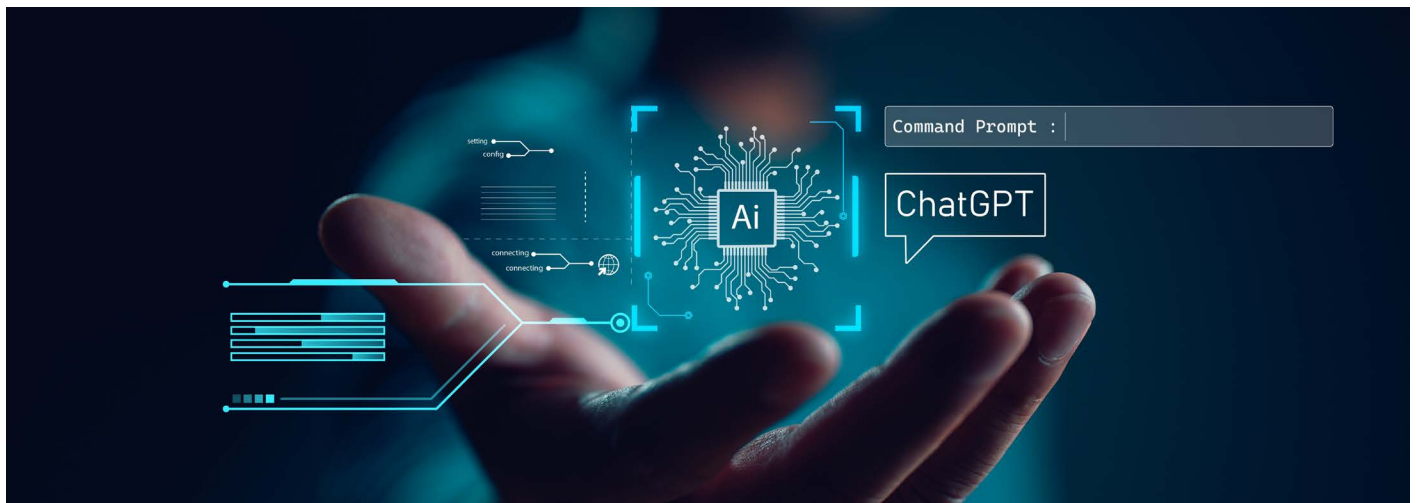
### Prioritise security and privacy

Ensure that the AI model neither ingests nor produces sensitive information that

violates an individual's privacy. Confirm with the AI model provider that the system does not accept and process such information beyond those authorised to view it within the organisation.

### Implement step-by-step

Like any other software implementation, keep the AI functionality in beta for some time while you test its results. This keeps the expectations within limits and controls unnecessary euphoria among the system's users. As the AI model shows desirable results, you can move out of beta to the live version.



## Drafting a policy for using generative AI

Some employees may already be using generative AI to do day-to-day tasks. Rather than enforcing an outright ban, it is better to roll out a usage policy so there is no shadow usage. Here are the dos and don'ts that you should consider including in the policy–

### Dos

1. Turn the browser history off while using external generative AI tools.

2. Monitor the AI model output that can sometimes go into hallucination, show factual errors, be biased, and write inappropriate statements.

### Don'ts

1. Feed any personal or confidential information into the generative AI model.
2. Input sensitive information such as phone numbers, credit card numbers, etc.

3. Give the company's server or system IP to the AI model.

If the company is using a proprietary AI model or has a dedicated supplier onboard, the work becomes simpler. In this case, the decision-makers need to regularly monitor the output and work with the supplier to set the expectations right.

## Conclusion

According to a leading management consulting firm, AI could add \$2.6 trillion to \$4.4 trillion to the global economy annually in sixty-three use cases and has the potential to change the anatomy of work. It can absorb 60-70% of a worker's time.

Business decision-makers must adopt AI while ensuring that they are robust frameworks for accountability and ethical use. The future of [generative AI](#) is about technological advancements that augment human capabilities for faster and more

efficient innovation. However, keeping the applications fair and ethical should be the top priority for decision-makers and AI technology companies.

\* For organizations on the digital transformation journey, agility is key in responding to a rapidly changing technology and business landscape. Now more than ever, it is crucial to deliver and exceed on organizational expectations with a robust digital mindset backed by innovation. Enabling businesses to sense, learn, respond, and evolve like a living organism, will be imperative for business excellence going forward. A comprehensive, yet modular suite of services is doing exactly that. Equipping organizations with intuitive decision-making automatically at scale, actionable insights based on real-time solutions, anytime/anywhere experience, and in-depth data visibility across functions leading to hyper-productivity, [Live Enterprise](#) is building connected organizations that are innovating collaboratively for the future.

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