

A close-up photograph of a human eye. The eye is looking directly at the camera. In the reflection of the iris, there is a scene of a person sitting at a desk in a modern office or laboratory setting. The lighting is dramatic, with a blue and green glow emanating from the upper left corner of the eye area. A thin, light blue line curves across the eye and extends towards the text on the right.

TAKING CONTROL OF GENERATIVE AI

Realizing AI's many possibilities
in a safe and secure way

Contents

THIS IS THE **IPHONE MOMENT** FOR THE AI INDUSTRY

3

CREATING **BUSINESS VALUE** WITH COMPANY DATA

6

BUILDING ON **AI FOUNDATIONS**

4

TRUST IS THE BIGGEST CHALLENGE IN GENERATIVE AI

7

GETTING **CUSTOMIZED INTELLIGENCE** FROM GENERATIVE AI

5

USING A **GENERATIVE AI EXPERIENCE LAYER** TO BRING VALUE BEYOND CX IMPROVEMENT

8

This is the iPhone moment for the AI industry

The hype surrounding the capabilities of generative AI is immense. While generative AI has been around for some time, the launch of foundation models like ChatGPT has sparked a surge of interest in the technology, leading to an **unparalleled adoption rate**. Within just two months of its release, ChatGPT achieved a record-breaking 100 million monthly active users, making it the fastest-growing consumer application in history.^[1]

We can see a transformation happening in AI that is similar to the way the iPhone revolutionized the smartphone market. And one thing is certain: generative AI is here to stay. The market for generative AI is projected to reach a value of 109 billion USD by 2030.^[2]

The shift toward widespread use of generative AI is already proving to be a rapid one and technological advances are happening at hyper-speed. According to research published in 2022, **generative AI will reach full maturity in just two to five years.**^[3]

From **automating processes** to quickly **creating marketing materials**, generative AI foundation models can deliver benefits that save time and money, enhance customer experience, and improve efficiency. The challenge for companies is how to adopt Generative AI successfully and deliver competitive advantages without exposing themselves to significant risks. Because generative AI can make critical errors, companies must ensure that they are in control of the entire process, from the business challenges they address to the governance that controls the model once it is deployed.

[1] Reuters, ChatGPT sets record for fastest-growing user base, 2 February 2023

[2] [Generative AI Market Size, Share & Trends Analysis Report By Component \(Software and Services\), By Technology \(Generative Adversarial Networks \(GANs\), Transformers\), By End-use, By Region, And Segment Forecasts, 2023 – 2030](#), Grand View Research, 2023

[3] Gartner, Hype Cycle for Artificial Intelligence, 2022

Building on AI foundations

The latest generative AI foundation models can have 10 billion, and even 100 billion parameters, which are significantly more than the earlier versions that were first created around 2014. As a result, hyperscalers are competing to create the best AI foundations that businesses can use to build upon. This allows companies to focus more on vendor selection and then their business challenges rather than having to build the whole foundation from scratch. This means AI is moving from custom development into the package age.

Getting customized intelligence from generative AI

Foundation models are really good at creating text and pictures. In theory, they can outperform humans in a number of areas including translation and the processing of handwriting, images, and speech.^[4] But they do this in a statistical way and can be prone to hallucinations, which is a term for generating false information from the underlying data. The level of confidence with which these hallucinations are presented can create a false sense of authority for incorrect information. These are models that do not have general intelligence or indeed any intelligence that you do not provide to them.

However, foundation models can be tuned. Integrating company knowledge

into a model results in **tailored intelligence** that meets the individual specificities of an organization. This guarantees that the model produces the right outcomes and works within set boundaries.

[4] [Rethinking Benchmarking in NLP](#), Kiela et al, 2021

Creating business value with company data

Tuning foundation models with company data and creating a layer around the model means you can deploy it in a trusted environment and **deliver reliable outputs at scale.**

Organizations must exercise caution and maintain control when implementing this approach, as any missteps in the process could result in significant consequences.

To do this means you need to adopt a model science approach rather than

the data science approach of previous AI generations. Ensuring that you are in control of the foundation model, and your data within it, is the first challenge for organizations looking to really leverage the power of generative AI, by combining a business knowledge model with the pre-trained foundation models. Without this approach, there is a significant risk of negative consequences, either of data leakage or corrupted outcomes.

Minimizing security risks with synthetic data

AI can help create customer profiles, identify trends, and unearth new business opportunities through **data analysis**. However, developing accurate and reliable AI models requires a substantial amount of data, which presents challenges regarding data quality and quantity. Strict regulations, such as GDPR, also limit the use of sensitive customer data. Generative Adversarial Network (GAN) models can produce synthetic, artificially generated data based on real data sets. This allows organizations to perform data analysis while

remaining **compliant with security regulations.**

One social insurance organization that provides financial security related to illness, disability, and families with children used synthetic data for analysis as the real data they process is highly sensitive. By generating medical records with synthetic data, the organization is able to **automate their process**, reduce the time spent on medical code classification and create better conditions for **developing new services** and benefits using AI methods.

Trust is the biggest challenge in generative AI

Data has value, and organizations have a responsibility to protect their data and the data of their customers. The uncontrolled usage of generative AIs could result in data suddenly being available for public consumption – something that has already happened to several firms. Establishing a model hub that implements a **testing and trust layer** to monitor any potential model usage leakages makes sure AI tools are being used in a secure and private way. It also ensures consistency and accuracy.

When integrating a generative AI foundation model, how do you know what it's going to do and control and bound it? In addition to the trust layer, it is essential to have a **guardrails** and an **orchestration layer** in place. This prevents AI models from producing inaccurate information or generating responses that contradict your

company's values. With the implementation of guardrails, the system can avoid hallucinations and **maintain its accuracy**.

Building trust in AI involves creating AI humility, which means ensuring that your AI acknowledges when it doesn't have an answer. Some foundation models may offer responses, regardless of their accuracy. This is why it is important to **establish boundaries** and ensure that the models admit their lack of knowledge when necessary.

When dealing with AI, especially foundation models that exceed human comprehension, **setting and controlling boundaries is critical** to prevent any unexpected outcomes. Without proper limitations, the system may malfunction or produce inaccurate results. While you may not understand the internals of the model, you should always be able to explain how it reached a specific outcome.

Applying generative AI to content generation

A global consumer goods company started using GPT-3 for automated content generation, language translation, and web marketing keyword optimization. This meant that they could replace a significant number of their copywriters with editors to check and tweak the content AI had generated.

Using a foundation model to help produce their marketing materials not only reduces costs and saves time, but it also generates more accurate and consistent content compared to the content produced by humans alone. Engaging AI-produced product descriptions, which included ten high-value keywords, received a **quality rating of 100%**. In contrast, content produced without the use of an AI tool had a 70% quality rating.

Using a generative AI experience layer to bring value beyond CX improvement

Generative AI is an **undeniably powerful tool**, especially when pre-trained foundation models are combined with a company's knowledge. If a company wants to use generative AI with their own data, they need a reliable partner who can help build the necessary infrastructure, give guidance, and help them scale up.

Capgemini acts as a trusted partner for businesses, working with them to develop tuned foundation models and help them navigate the complexities of generative AI. We provide guidance through the entire process, including assessments, framework implementation, and business templates, to ensure a smooth and efficient experience. This includes providing a **generative AI experience layer** to ensure that high-performing AI solutions can be deployed at scale in a trusted manner.

We have already guided some of the world's leading enterprises on their generative AI journey, sharing our expertise from roadmaps to deployment.

Generative AI will shape all our futures, but we can shape generative AI to get the future we want.



About Capgemini

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided every day by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of over 360,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast-evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering, and platforms. The Group reported in 2022 global revenues of €22 billion.

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