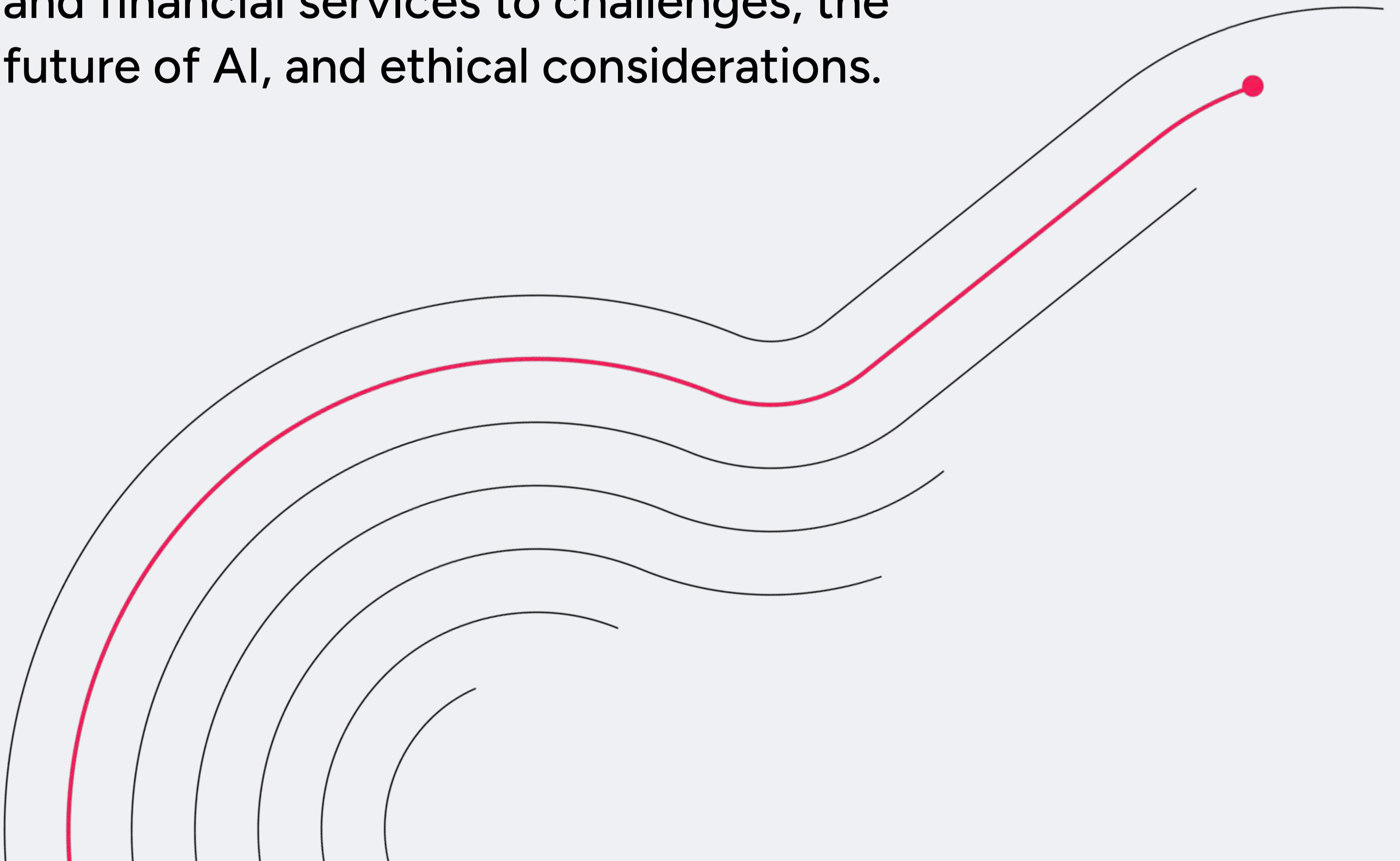# AI in Finance: 2024 Outlook

Learn about AI in the finance industry in 2024, from AI applications in banking and financial services to challenges, the future of AI, and ethical considerations.

AI in Finance Dossier: Transforming Financial Services in 2024 & Beyond

Introduction

As investments in AI use cases in financial services continue to pick up the pace, generative AI is to remain the center of executives' attention in 2024. The technology is powering new forms of self-service customer support, robo-advisors and virtual assistants, and productivity tools.

AI in general continues to be an efficiency booster across financial services organizations. Its use in fraud detection, underwriting, biometrics, and customer analytics remain among the top applications of AI in finance in 2024.

The proliferation of AI in finance also attracts the attention of regulators. In addition to general AI regulations (e.g., the EU's AI Act), financial watchdogs around the world issue guidelines on AI use in finance.

Consumers in developed markets, however, remain unconvinced by AI. Countries like the United States, France, Australia, and Canada score low on excitement over AI and high on concern with the technology.

The two issues are the main force behind the push for ethical AI use in finance. It stands for implementing explainable, fair, robust, and transparent models that protect privacy and ensure data security. Financial services, however, also have to deal with data issues, talent shortages, and budget constraints to seize the opportunities of AI.

In this report, we'll cover:

- Latest advances in AI technology
- Regulatory landscape for AI in finance
- AI in finance examples and use cases
- Ai in finance market overview
- Ethical considerations of AI implementation in financial services
- Challenges and opportunities of AI use in finance
- AI-related collaboration trends within the industry
- Regional differences in AI markets
- Trends and technologies that will shape the future of AI in financial services

About S-PRO

We are a software development and IT consulting partner for businesses in financial services, healthcare, and renewable energy. We leverage over a decade of full-cycle development experience to help our clients leverage AI, blockchain, big data, cloud, and other cutting-edge technologies.

We enable fast-growing startups and enterprises to scale operations, boost efficiency, transform customer experiences, and launch innovative products.

Learn more about our work from our case studies.

Recent AI Developments to Drive Innovation in 2024

2023 marked the continuous development of generative AI, along with the emergence of causal and constitutional AI.
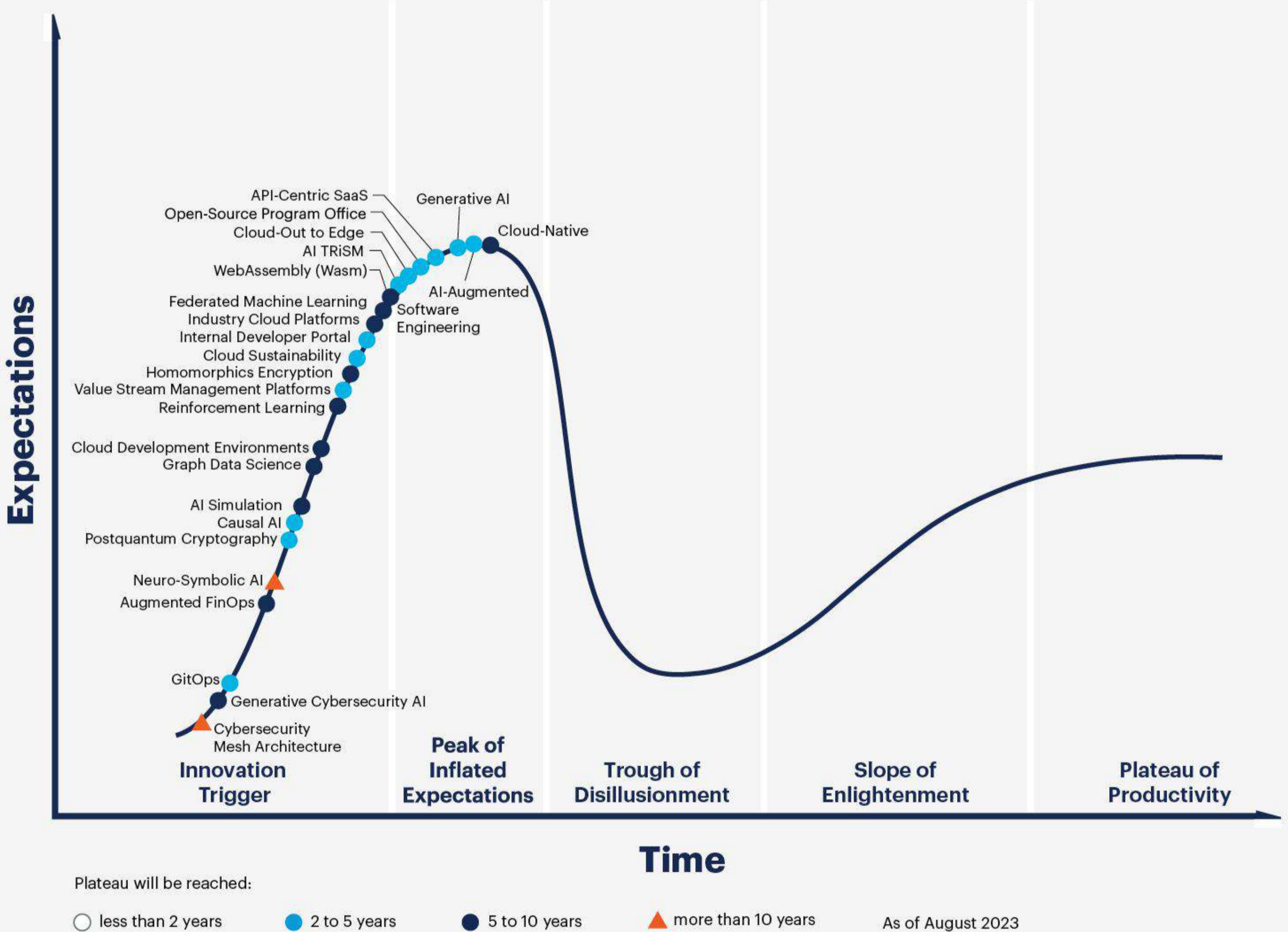
Generative AI

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Hype Cycle for Emerging Technologies, 2023

Expectations (y-axis) vs **Time** (x-axis)

Labels along the curve (Innovation Trigger to Peak of Inflated Expectations):
- API-Centric SaaS
- Open-Source Program Office
- Cloud-Out to Edge
- AI TRiSM
- WebAssembly (Wasm)
- Federated Machine Learning
- Industry Cloud Platforms
- Internal Developer Portal
- Cloud Sustainability
- Homomorphics Encryption
- Value Stream Management Platforms
- Reinforcement Learning
- Cloud Development Environments
- Graph Data Science
- AI Simulation
- Causal AI
- Postquantum Cryptography
- Neuro-Symbolic AI
- Augmented FinOps
- GitOps
- Generative Cybersecurity AI
- Cybersecurity Mesh Architecture
- Generative AI
- Cloud-Native
- AI-Augmented Software Engineering

Phases along the x-axis:
Innovation Trigger — **Peak of Inflated Expectations** — **Trough of Disillusionment** — **Slope of Enlightenment** — **Plateau of Productivity**

Plateau will be reached:
- ◯ less than 2 years
- 🔵 2 to 5 years
- ⚫ 5 to 10 years
- 🔺 more than 10 years

As of August 2023

gartner.com

Gartner

Source: Gartner
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According to Gartner's 2023 AI Hype Cycle, generative AI continues to dominate the AI discussion but has reached the peak of inflated expectations. However, that doesn't mean it's time to discount it altogether. Generative AI in finance and accounting can power:

- Faster digital transformation with code writing assistants (e.g., GitHub Copilot)
- Synthetic data generation for model training, anomaly detection, and cybersecurity
- Report generation and summarization for better customer onboarding
- Personal virtual assistants that cater to customers' daily needs 24/7

Generative AI continues to develop at a rapid pace. The most recent innovations in this domain include:

- **Multimodal AI models** that can generate output based on multiple types of data as input (e.g., OpenAI's GPT-4V can switch between NLP and computer vision tasks)
- **Text-to-video generative AI models** (e.g., Google's Lumiere announced in late January 2024, Runway's Gen-2 model)
- **Smaller language model**s that are less resource-intensive yet deliver better performance when trained on large data sets.

Causal AI

Unlike other forms of artificial intelligence used to predict behavior and outcomes, causal AI aims to find the root causes of documented outcomes. In other words, while predictive analytics models usually look for correlation, causal AI is trained to identify cause-and-effect relationships. This allows it to predict future outcomes with more accuracy and autonomy.

Furthermore, causal AI is, by default, explainable. A human supervising the model can trace its decision-making process and understand why the algorithm produced a given result. This resolves a common issue AI researchers and developers struggle with – the black-box problem.

Causal AI can tackle a variety of tasks in the finance industry, such as:

- Identifying customer churn causes
- Improving the accuracy of risk assessment in loan underwriting
- Enhancing the accuracy of fraud detection

Constitutional AI

Avoiding algorithmic bias and inaccurate results typically requires a tremendous amount of human feedback in the reinforcement learning framework with human feedback (RLHF). Using human judgment, it allows for weeding out harmful, inaccurate, or unhelpful results.

However, this method isn't infinitely scalable. On top of that, if human supervisors can't pinpoint how the algorithm arrived at its conclusion, the efficiency of human feedback drops.

Constitutional AI seeks to align the AI models with human values more efficiently while

addressing these two issues. It involves outlining the values the AI model has to abide by and then training it to rate the output based on the alignment with those values. The model is then incentivized to produce results that score higher in this alignment.

Constitutional AI can be a response to the demand for ethical and responsible AI. For example, Claude, a chatbot developed by Anthropic, was aligned using the constitutional AI methodology.
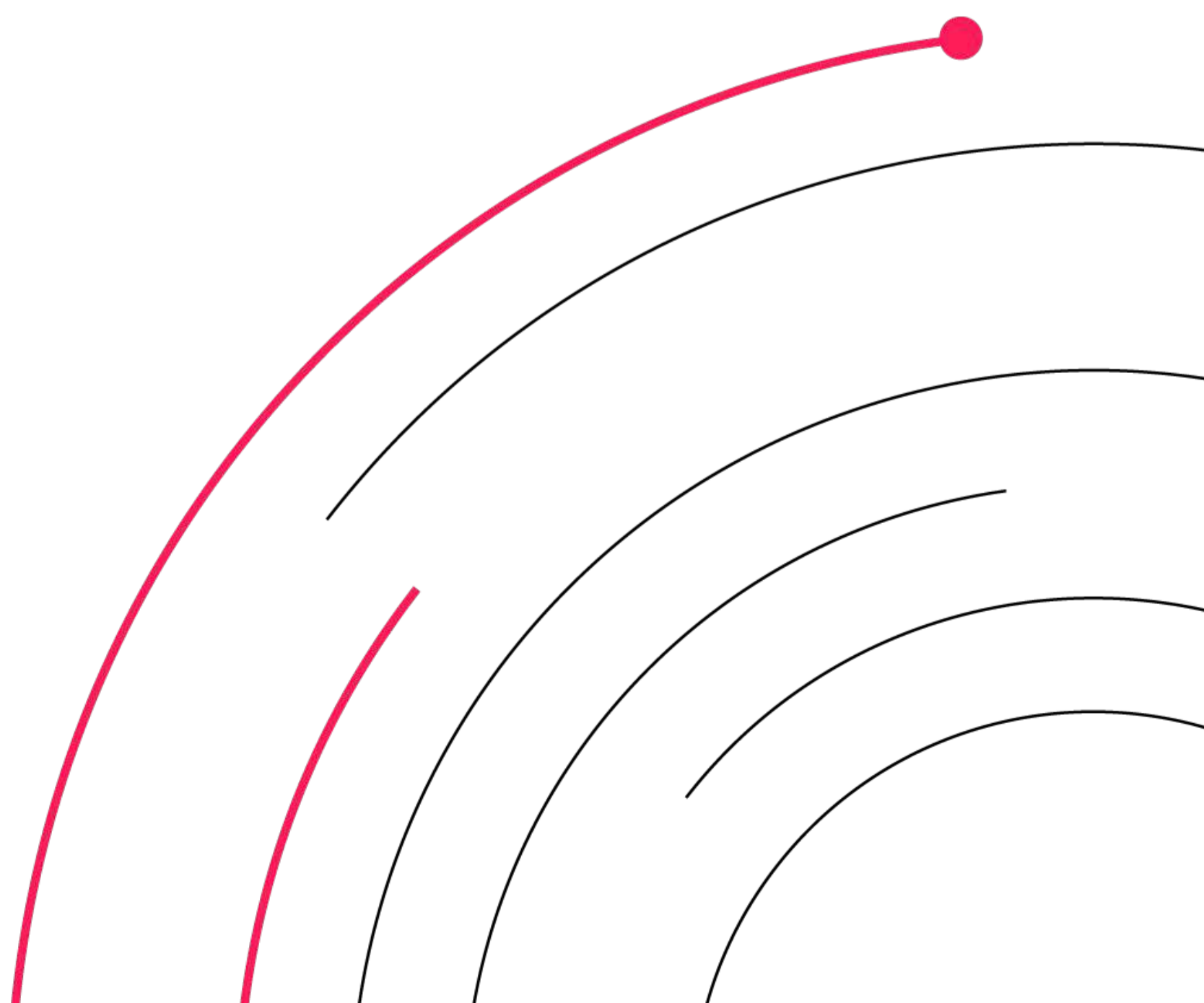
Regulatory Landscape Is Evolving

AI use in finance has never been completely unregulated. Financial institutions have to abide by the same data privacy laws and industry-specific regulations when deploying AI as in any other undertaking.

That said, 2024 is bound to be the year of increased attention to AI applications in finance on regulators' part – and mounting regulatory pressure.

Regulations related to AI governance vary around the world.

As of November 2023, nonexhaustive

| Type of policy: Nonbinding principles (eg, OECD)	General AI legislation proposed or being finalized	Example countries without general AI legislation
Japan	Brazil	Australia
Singapore	Canada	India
United Arab Emirates	China	New Zealand
United Kingdom	South Korea	Saudi Arabia
United States	European Union	
Other OECD member countries		

Source: OECD; McKinsey analysis

McKinsey & Company

Emerging AI Deployment Regulations

AI has managed to capture legislators' attention across the globe. The mentions of the technology in legislative proceedings almost doubled between 2022 and 2023.

Number of mentions of AI in legislative proceedings in 80 select countries, 2016–23
Source: AI Index, 2024 | Chart: 2024 AI Index report
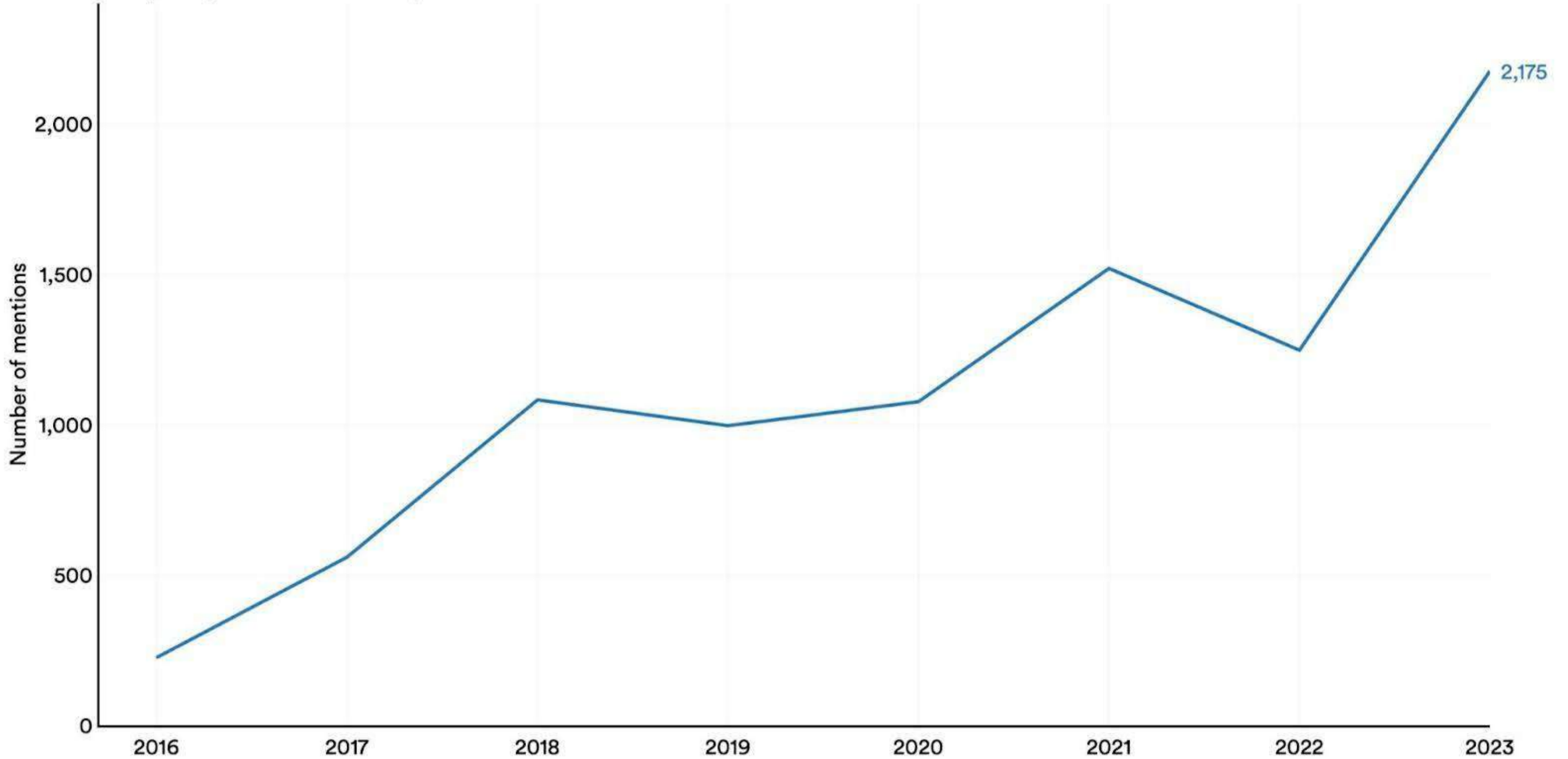
The European Union is paving the way with its recently adopted Artificial Intelligence Act (AIA).

Brazil, Canada, China, and South Korea also have general AI legislation in the works.

EU's Artificial Intelligence Act Is In

The European Union's Artificial Intelligence Act (AI Act) is, arguably, the most ambitious regulatory framework for AI systems so far. Adopted by the European Parliament in March 2024, the AI Act introduces the notion of high-risk AI systems.

Implementing such systems has to involve:

- Proper risk assessment and mitigation

- Continuous log maintenance
- Algorithm transparency and accuracy
- Human oversight

For instance, the AI Act lists AI systems for assessing creditworthiness in banking or evaluating risk and calculating prices in insurance underwriting as high-risk systems.

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For instance, the AI Act lists AI systems for assessing creditworthiness in banking or evaluating risk and calculating prices in insurance underwriting as high-risk systems. Their developers are then obligated to:
- Implement data governance and ensure datasets are representative, error-free, and complete
- Establish a risk management system
- Allow for human oversight in their systems
- Ensure high levels of system accuracy, security, and robustness
- Implement a quality management system

U.S. Is Ramping Up Regulatory Pressure

President Biden's recent executive order sets the tone for further AI regulation in the United States. The executive order directed federal agencies, including the U.S. Treasury, to review and draft new rules for AI use across multiple industries.

However, any federal legislation on AI use is unlikely to pass during the election year, according to Deloitte's 2024 capital markets regulatory outlook.

That said, U.S. industry regulators are equally unlikely to leave organizations to their own devices when it comes to the use of AI in finance:
- Deloitte expects the U.S. Consumer Financial Protection Bureau (CFPB) to scrutinize the use of AI in loan decision-making in 2024.
- The National Association of Insurance Commissioners (NAIC) adopted the Model Bulletin on the Use of AI Systems in late 2023. The document serves as a template for state insurance regulators to pass their own laws.
- U.S. Treasury published a report on AI-related risks, challenges in cybersecurity and fraud, and the best practices for addressing them in March 2024.