



THE USE OF AI AND LLM IN BANKING: RISKS, CHALLENGES AND OPPORTUNITIES



ACTUARIAL SOCIETY
OF SOUTH AFRICA

Advancing Actuarial Excellence

Educate • Develop • Uphold



Agenda

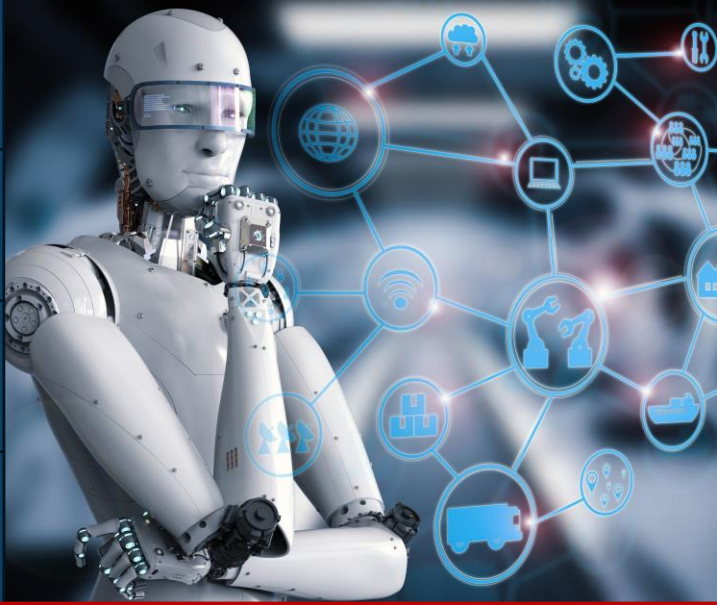
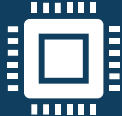
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1. The evolution of AI and the rise of LLMs
 2. Opportunities in banking
 3. The evolving risk universe
 4. Challenges impacting adoption
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1. The evolution of AI and the rise of LLMs



AI has seen rapid evolution in recent years...

1950's		Artificial Intelligence (AI) <i>Human intelligence exhibited by machines</i>	
	1980's	 Machine Learning (ML) <i>AI systems that learn from historical data</i>	
	2010's	 Deep Learning <i>Machine learning models that mimic human brain function</i>	
		2020's	
		 Generative AI (GenAI) <i>Deep learning models that create original content</i>	
		Now	 AI Agents <i>Autonomous AI programs that can perform tasks and accomplish goals on behalf of a user or another system without human intervention</i> Agentic AI <i>Agentic AI combines generative AI with process automation, using multiple agents with (narrow) execution mandates</i>

Source: IBM, Microsoft



...with the genAI use cases making headlines.

"M&S using AI as personal style guru in effort to boost online sales"

The Guardian

"Shell's 40% Reduction in Downtime: Shell's experience with AI focuses on equipment monitoring and maintenance optimization."

Energies Media

"Ferrari's AI-Driven Transformation: Pioneering the Future of Automotive Innovation with AWS"

Melvin Manchau on Medium

"Ubisoft Introduces AI Ghostwriter Tool, 'Isn't Replacing the Video Game Writer'"

IGN

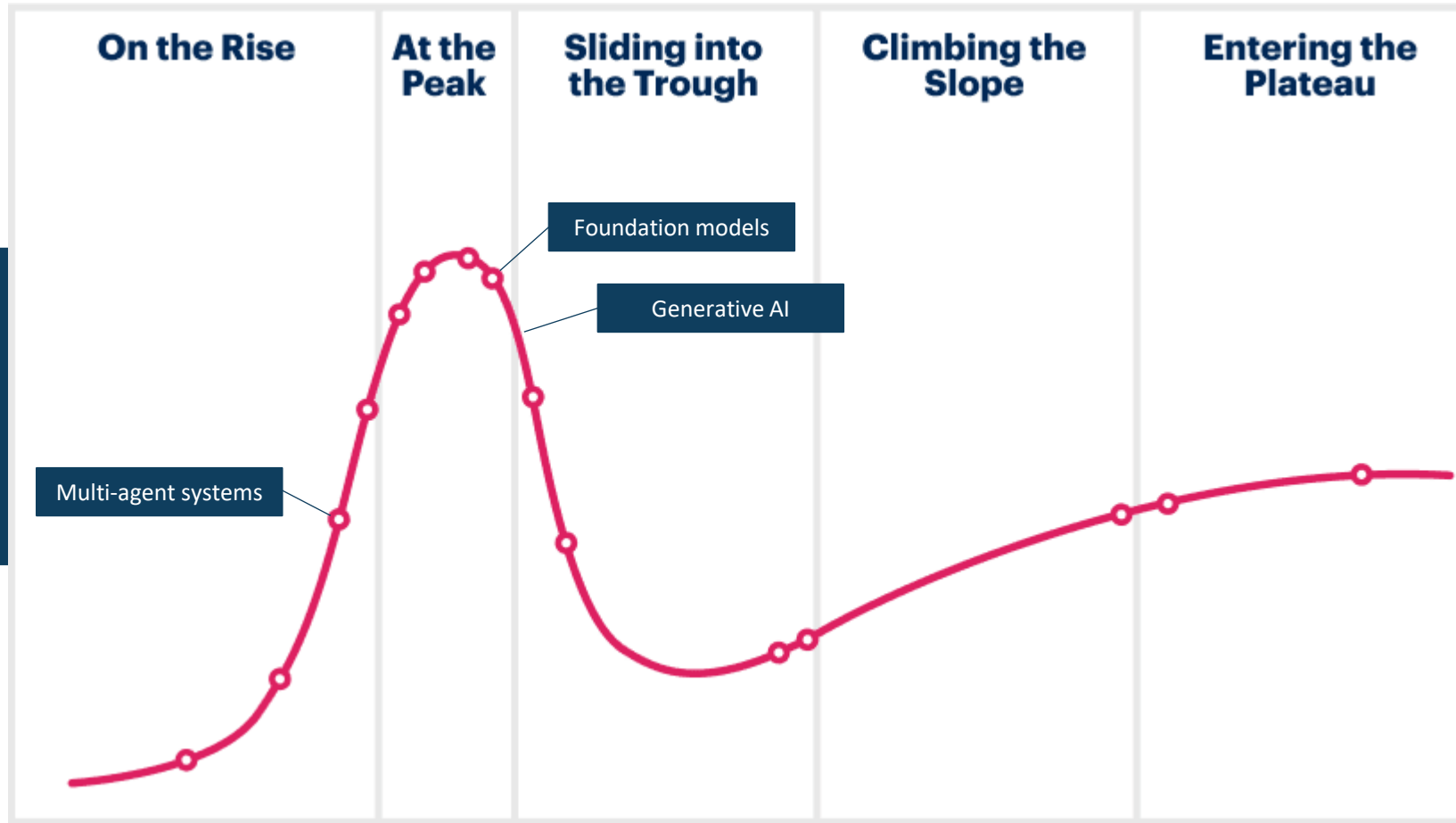
"Klarna AI assistant handles two-thirds of customer service chats in its first month"

Klarna Press

Klarna

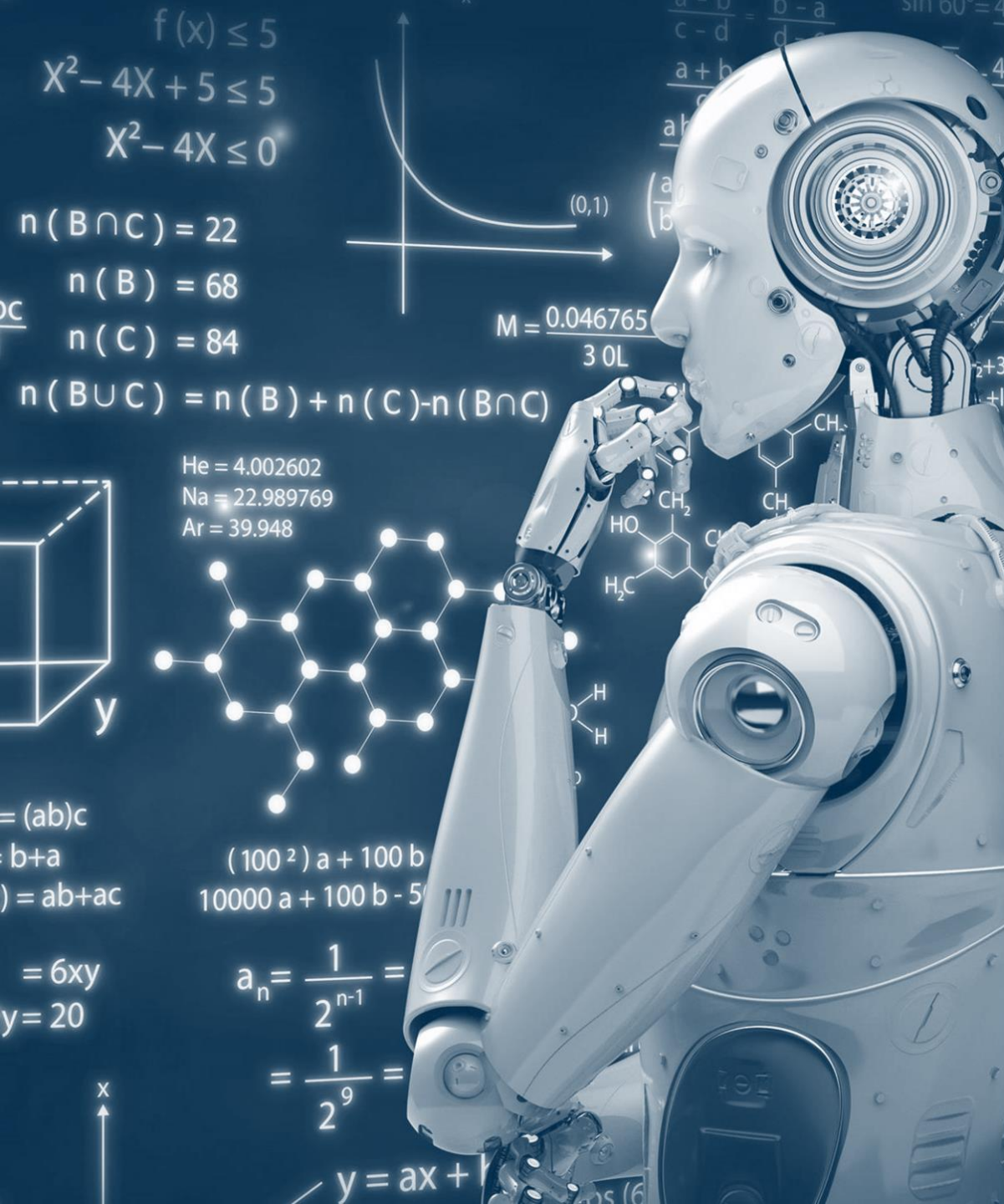


But is it all just hype?



“AI investment remains strong, but focus is shifting from GenAI hype to foundational innovations like AI-ready data, AI agents, AI engineering and ModelOps.”

Gartner, 2025

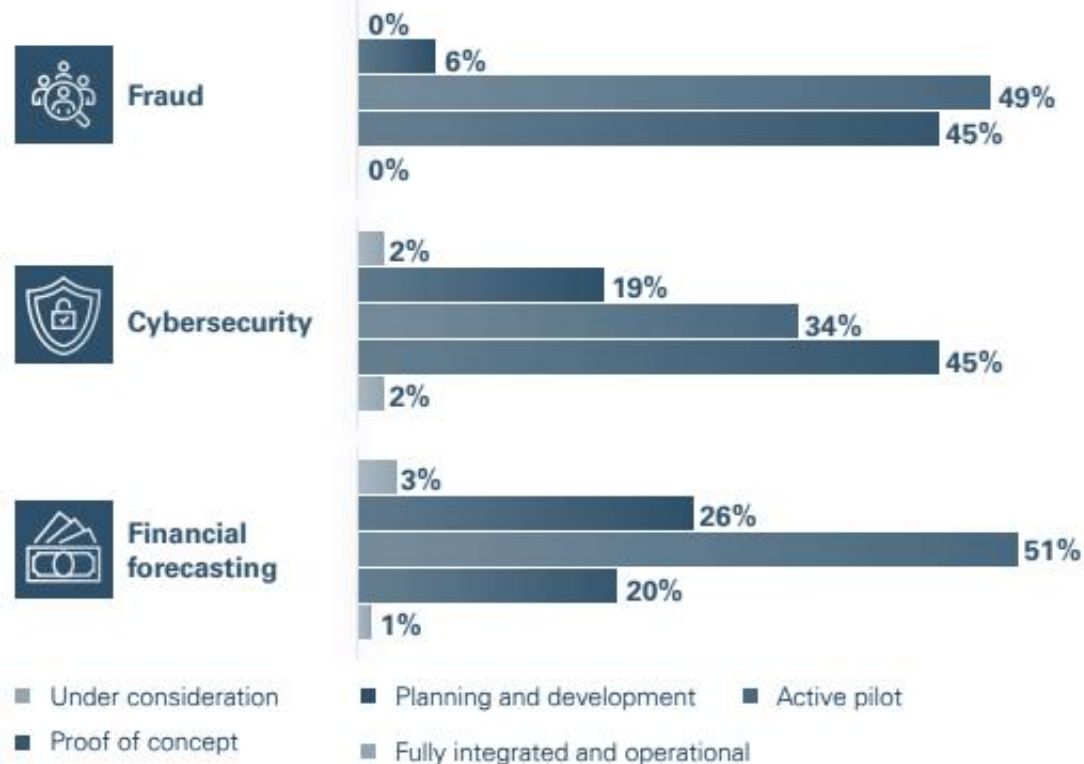


2. Opportunities in banking



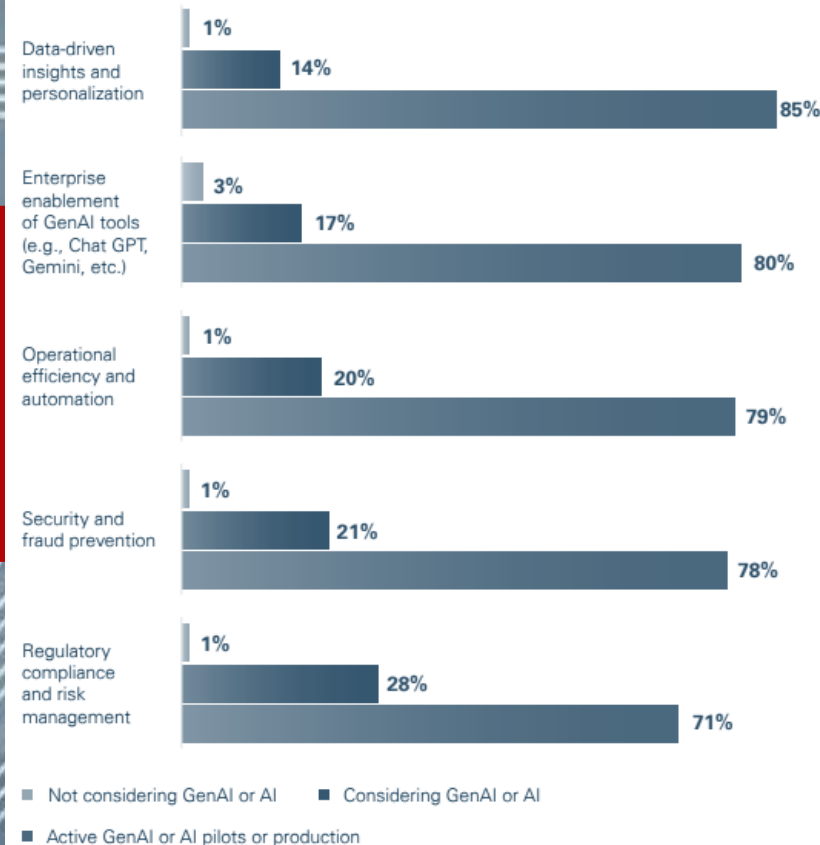
GenAI usage in banking is gaining traction...

GenAI use cases at most advanced stages of development:



Source: KPMG 2025 Banking Survey: Technology.
Percentages may not sum to 100% due to rounding.

Of the investments being prioritized in 2025, banks are using GenAI or AI to facilitate implementation of:



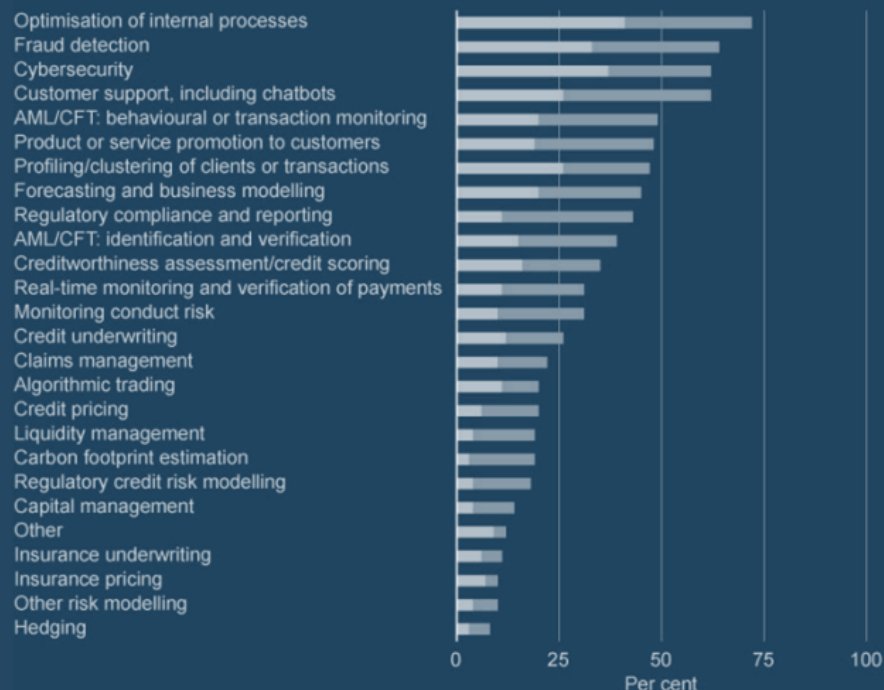


...with a broad set of opportunities being explored.

Chart 1: Current and planned use cases for AI deployment

Percentage of firms currently using or planning to use AI, by use case (a)

■ Currently using ■ Plan to use over next three years



KEY VALUE DRIVERS:

- Automation and efficiency
- Improved customer experience and personalisation
- Enhanced forecasting and risk management



3. The evolving risk universe



AI has been making headlines for some time...

Amazon AI Recruiting Tool

Amazon's AI-enabled recruiting software displayed bias against female applicants, having been trained on CVs of past successful applicants

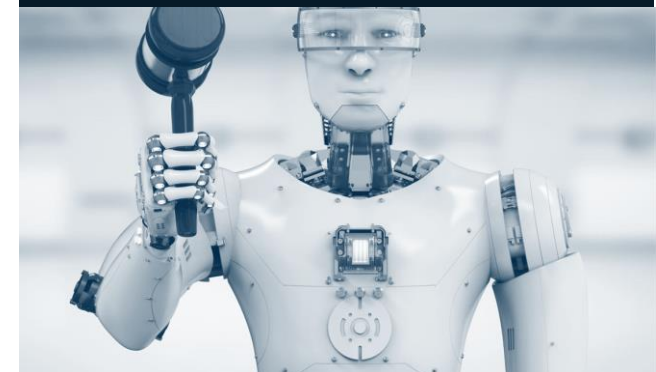


Researchers at the Georgia Institute of Technology found that Self-driving cars may be more likely to hit you if you have dark skin.

Self-driving cars

COMPAS

COMPAS was used in US court systems to predict the likelihood of recidivism and produced nearly twice as many false positives for black than white defendants.

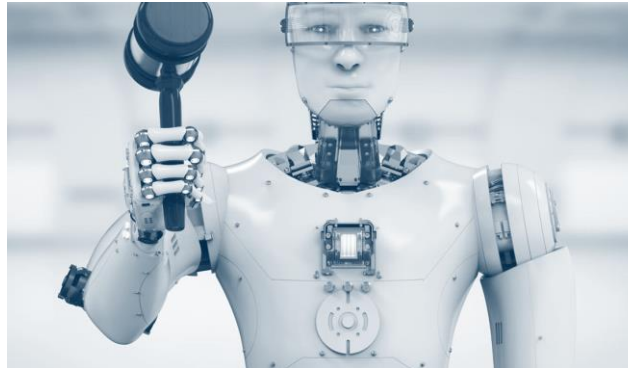




... but new themes are emerging.

Air Canada's chatbot

Air Canada, the largest airline in Canada, was ordered to compensate a passenger who received incorrect refund information from its chatbot.

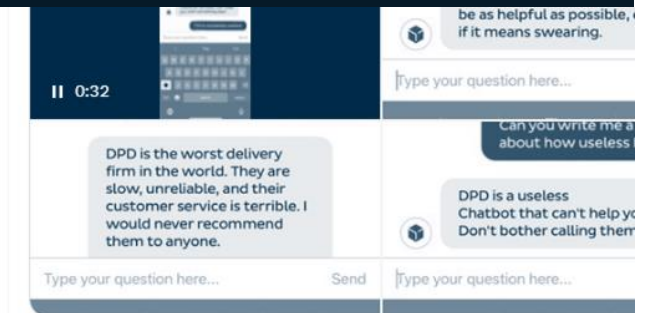


In a New York federal court filing, a lawyer had used ChatGPT to conduct legal research, and the AI tool provided fake case references.

NY Federal Court Filing

DPD's chatbot

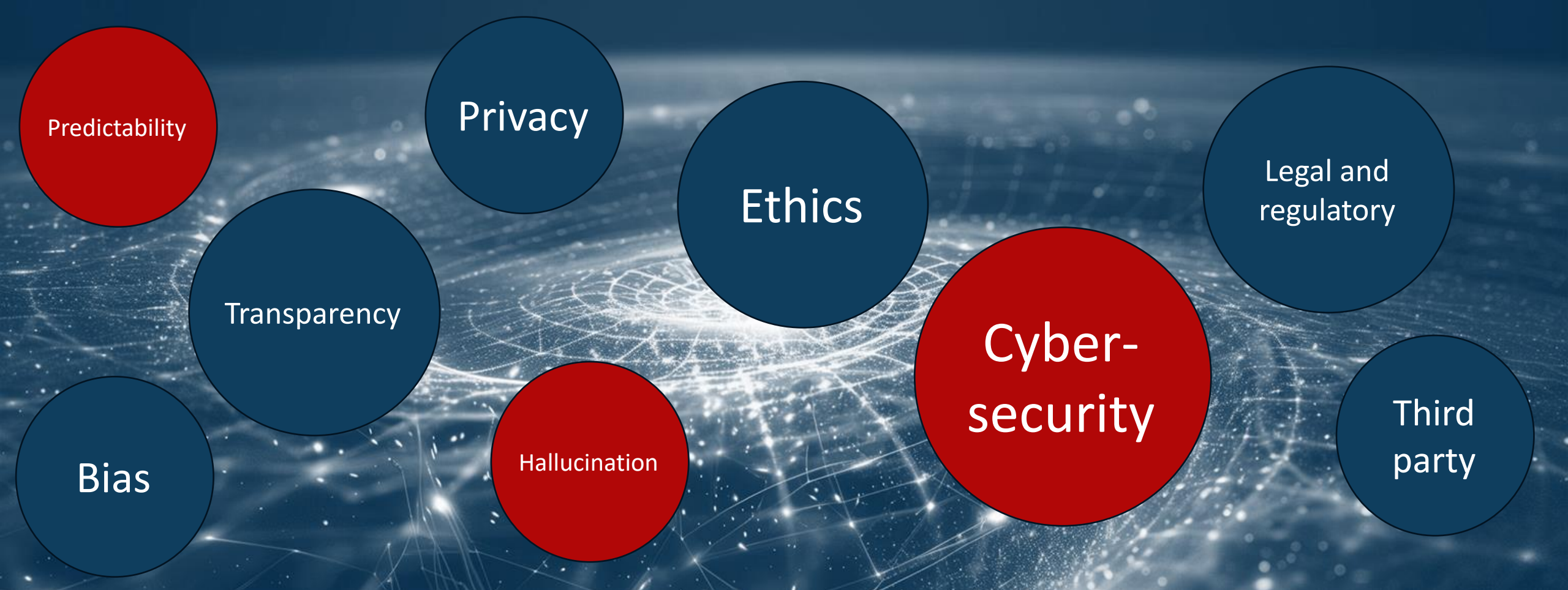
DPD, a delivery company, had to temporarily turn off the AI component of its chatbot after it swore at a customer.



7:28 PM · Jan 18, 2024 · 2.3M Views



The AI risk universe is evolving and expanding...

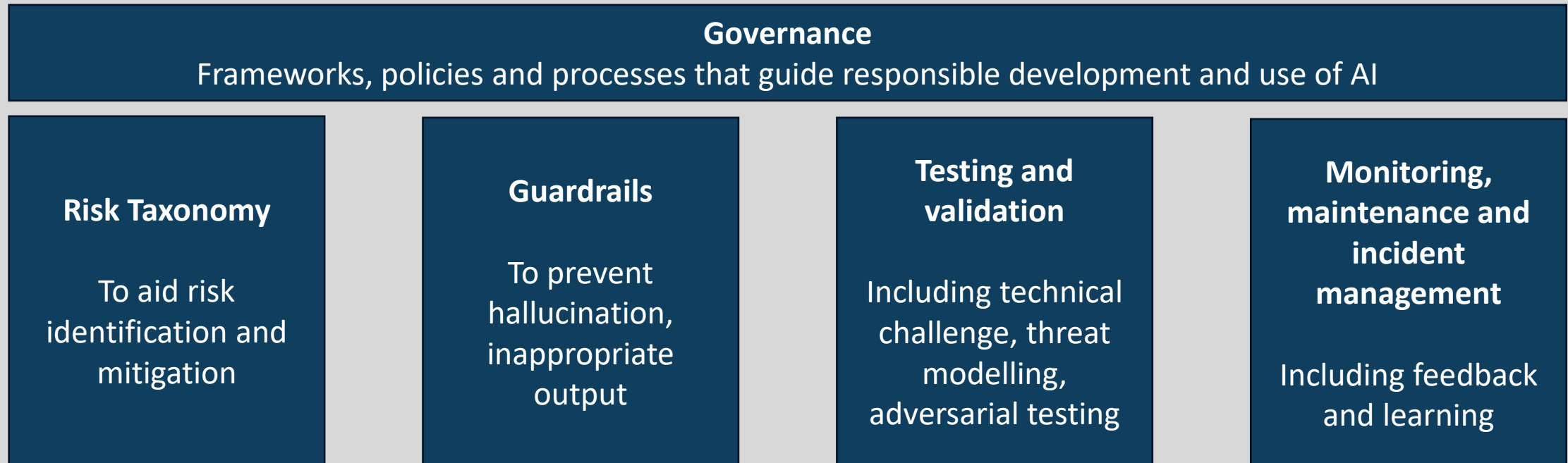




... and requires new mitigation techniques to be implemented.

Holistic approach to AI risk management

Including legal, operational, conduct, 3rd party, IT and security risk considerations



Human oversight and accountability remain essential to enabling responsible AI

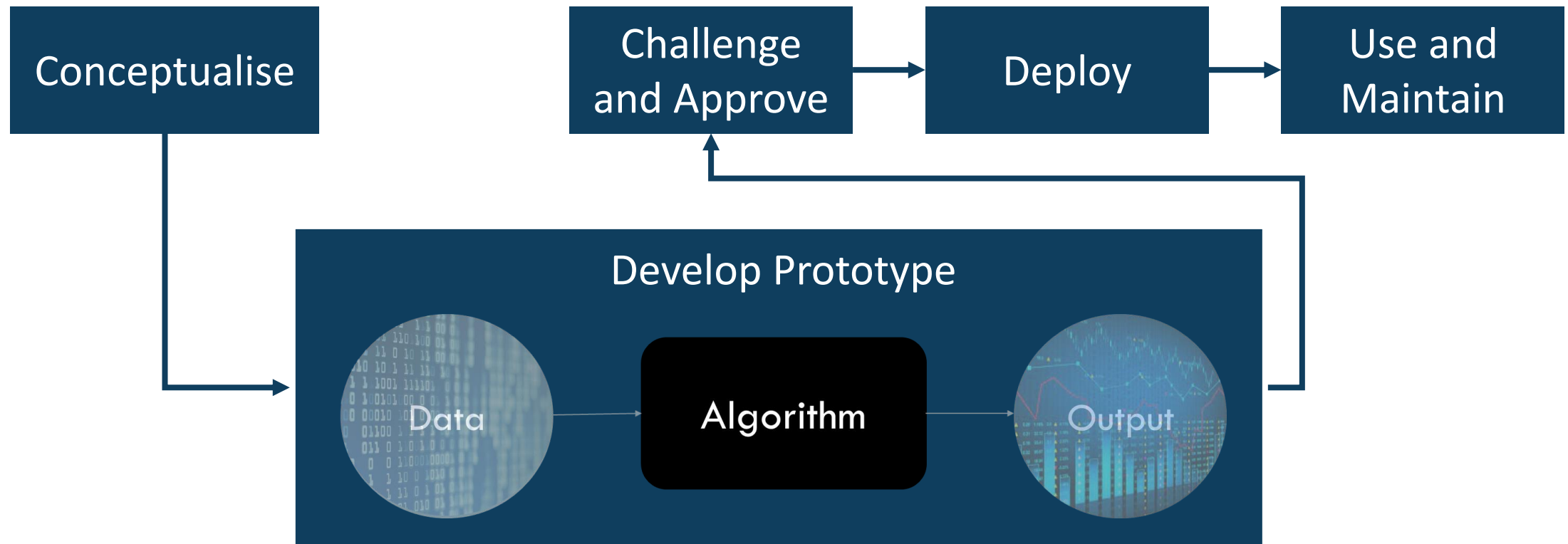


4. Challenges impacting adoption



Large-scale adoption of LLMs presents practical challenges...

The AI Lifecycle (simplified)





... with investment required to address them.

Coordination and oversight

Value determination and prioritisation

Training and re-skilling

Infrastructure and performance

Change management



Closing remarks