

The image features a large, thin white circle centered on a black background. Inside this circle, the word "Agents" is written in a large, white, sans-serif font. Below it, the text "By marcelcastrobr" is written in a smaller, white, sans-serif font. To the left of the large circle, there are two horizontal wavy lines. Below these, there is a small, solid orange circle. To the right of the large circle, there is a small, double-lined orange circle. In the bottom right corner, there is a grid of small white dots.

Agents

By marcelcastrobr

A.I. TURNS THIS SINGLE
BULLET POINT INTO A
LONG EMAIL I CAN
PRETEND I WROTE.



A.I. MAKES A SINGLE
BULLET POINT OUT OF
THIS LONG EMAIL I CAN
PRETEND I READ.



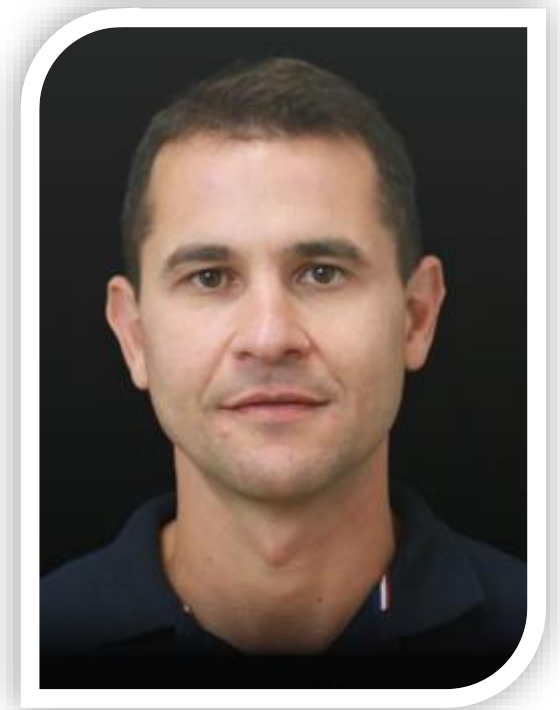
Agenda

- Generative AI: innovation opportunities
- AI Evolution: from Assistants to Agents
- Demo: EU Regulation Analyst



Marcel Castro

- Sr. Data Scientist & AI
- Ph.D. in Computer Science, KAU/Sweden.
- Experience:
 - network engineer, data scientist, cloud architect
 - AWS Generative AI Ambassador
- Hobby: automation and robotics.



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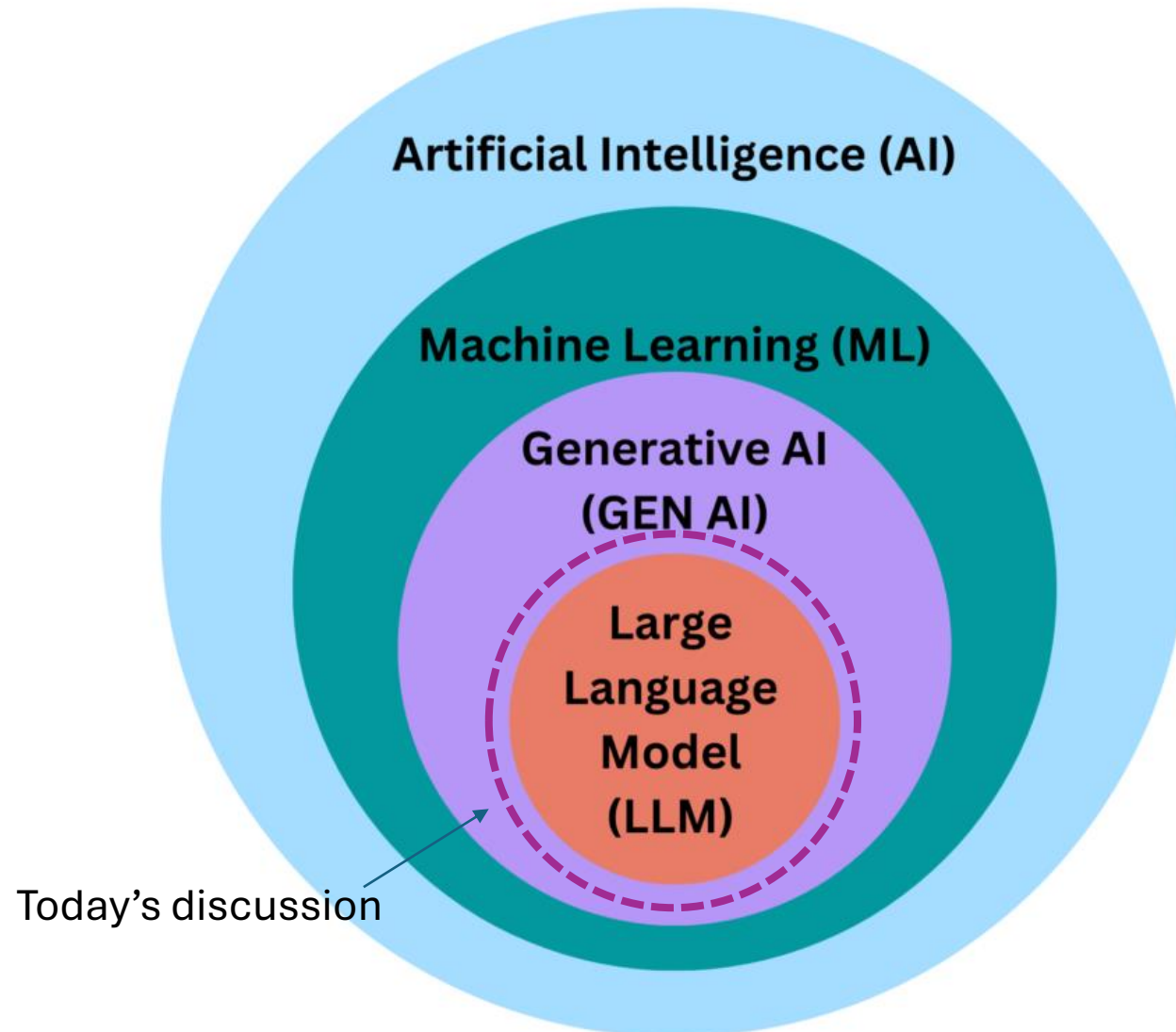


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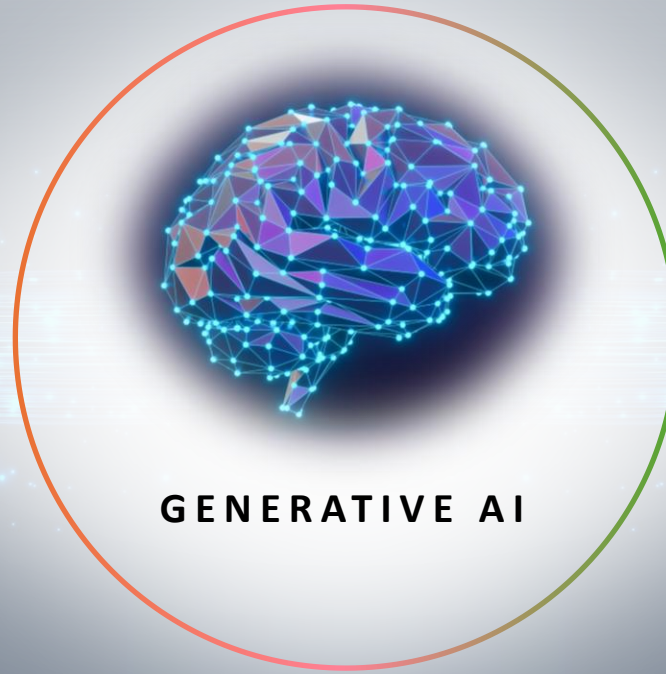


marcelcastrobr

AI/ML/DL/Generative AI: Overview



Innovation can
transform industries



**Enhance Customer
Experiences**

**Boost employee productivity
& creativity**

**Optimize business
processes**

Enhance Customer Experiences

CHATBOTS

VIRTUAL ASSISTANTS

CONVERSATION ANALYTICS

PERSONALIZATION

Boost employee productivity & creativity

CONVERSATIONAL SEARCH

SUMMARIZATION

CONTENT CREATION

CODE GENERATION

DATA TO INSIGHTS

Optimize business processes

DOCUMENT PROCESSING

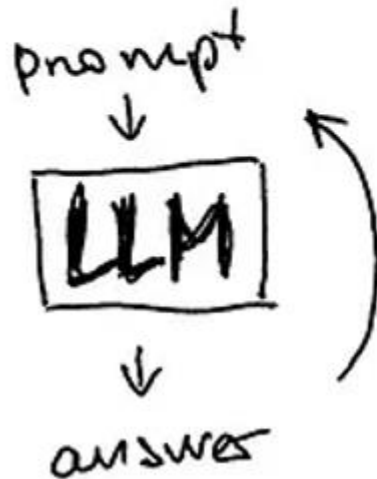
DATA AUGMENTATION CYBERSECURITY

PROCESS OPTIMIZATION

AI Evolution: from Assistants to Agents

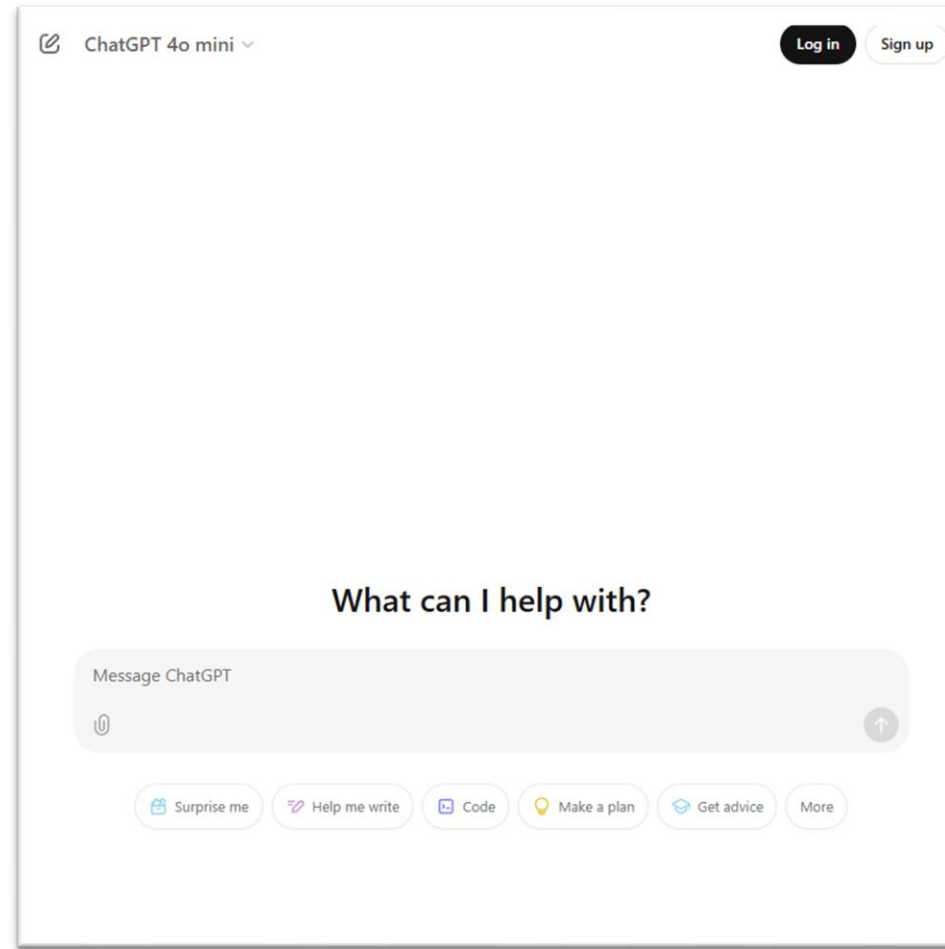
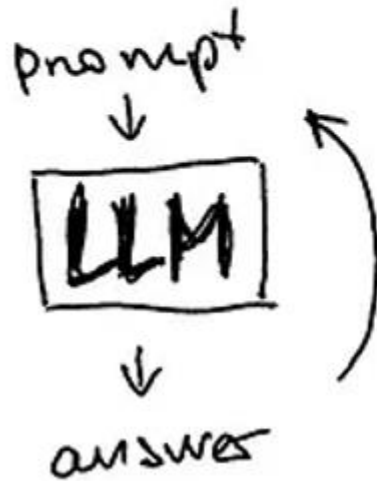


AI Evolution: from Assistants to Agents



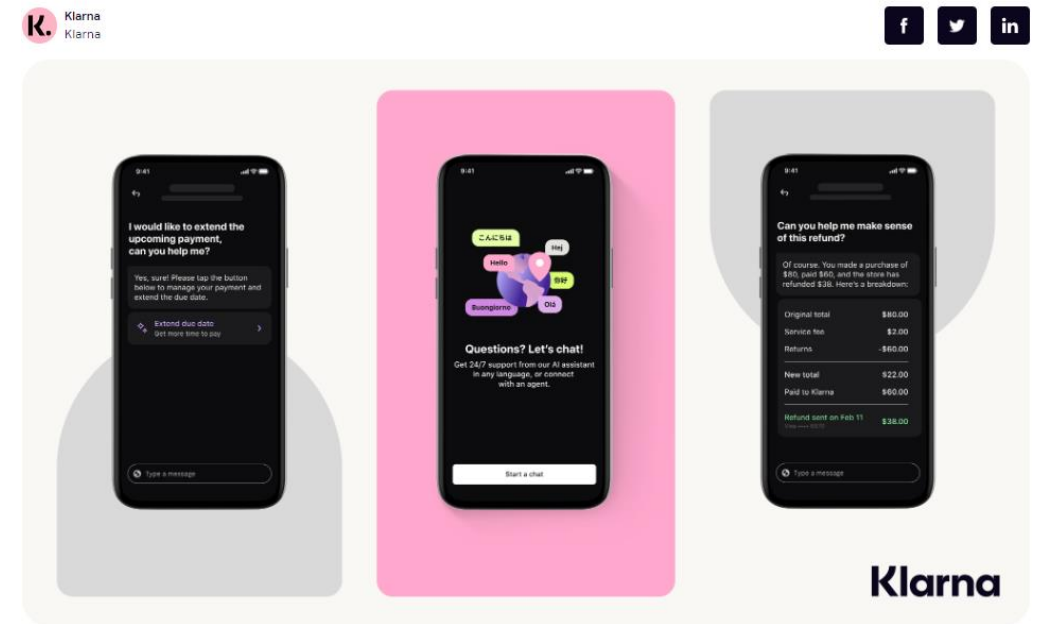
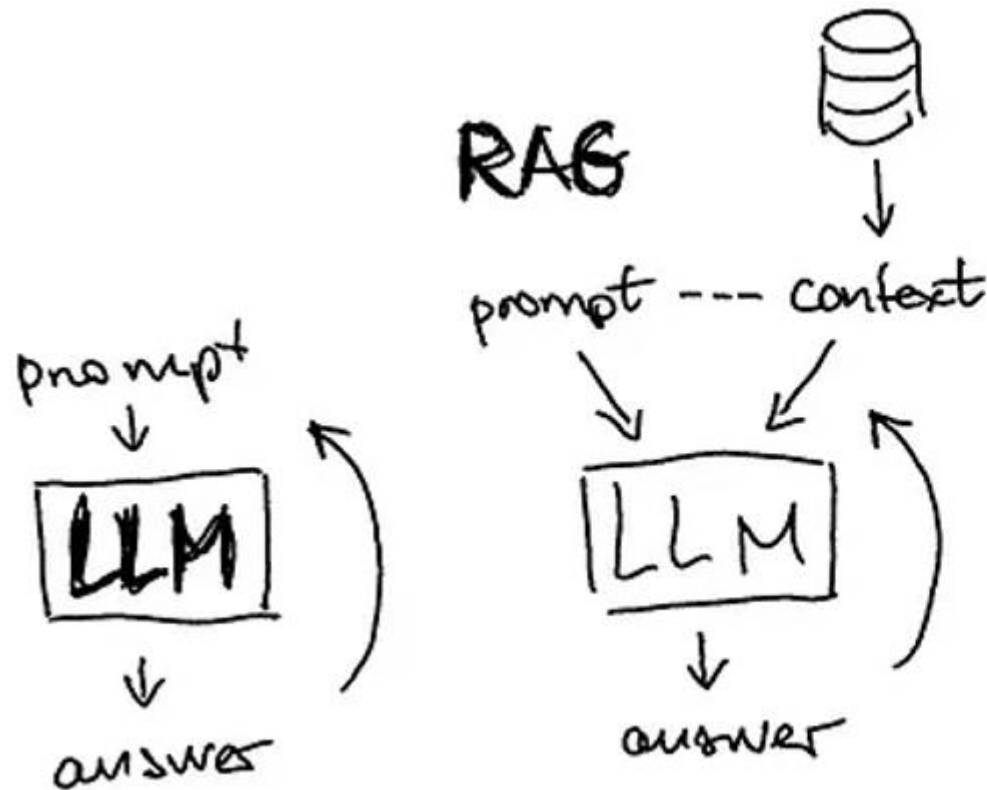
[Picture by Mhammed Talhaouy](#)

AI Evolution: from Assistants to Agents

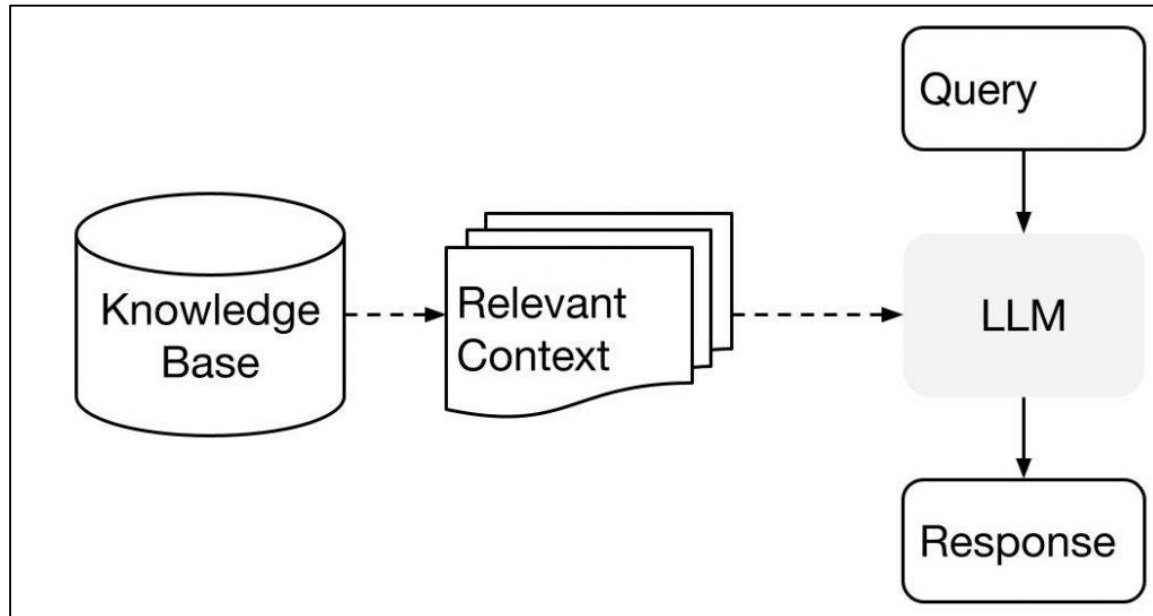


[Picture by Mhammed Talhaouy](#)

AI Evolution: from Assistants to Agents



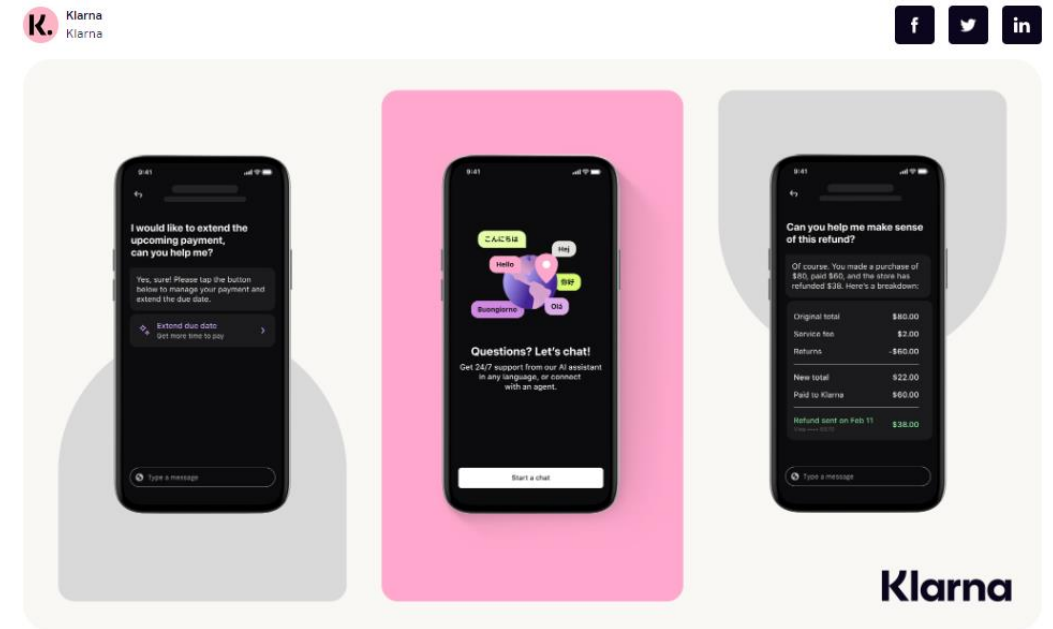
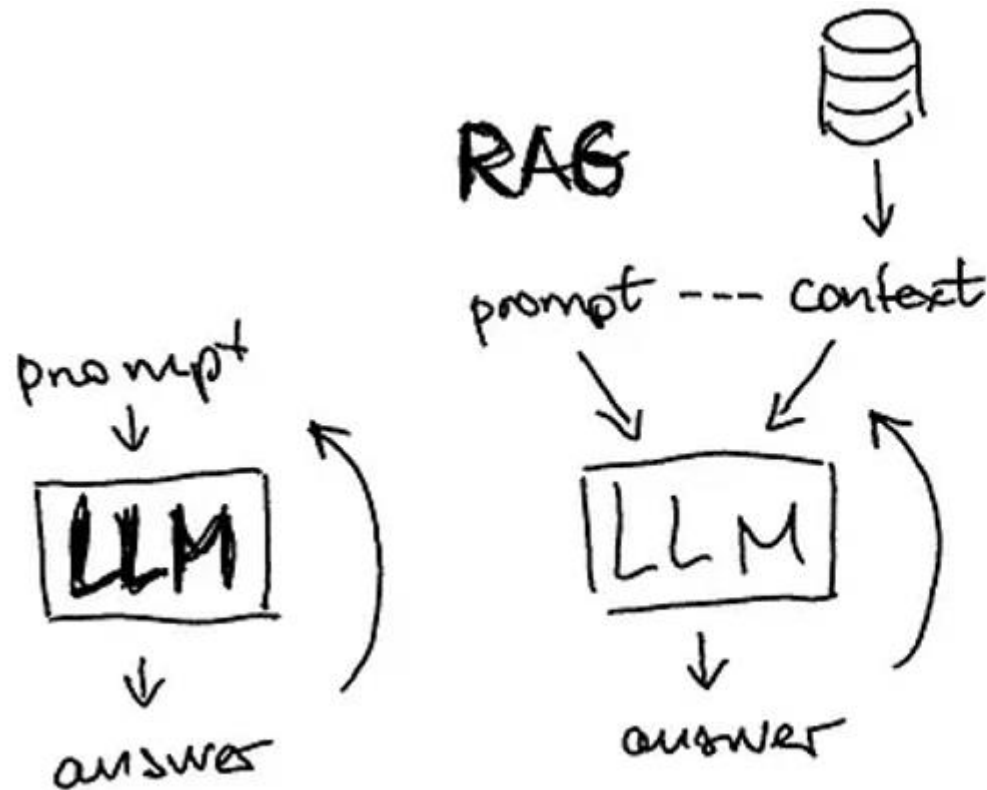
Retrieval-Augmented Generation (RAG) – High-level



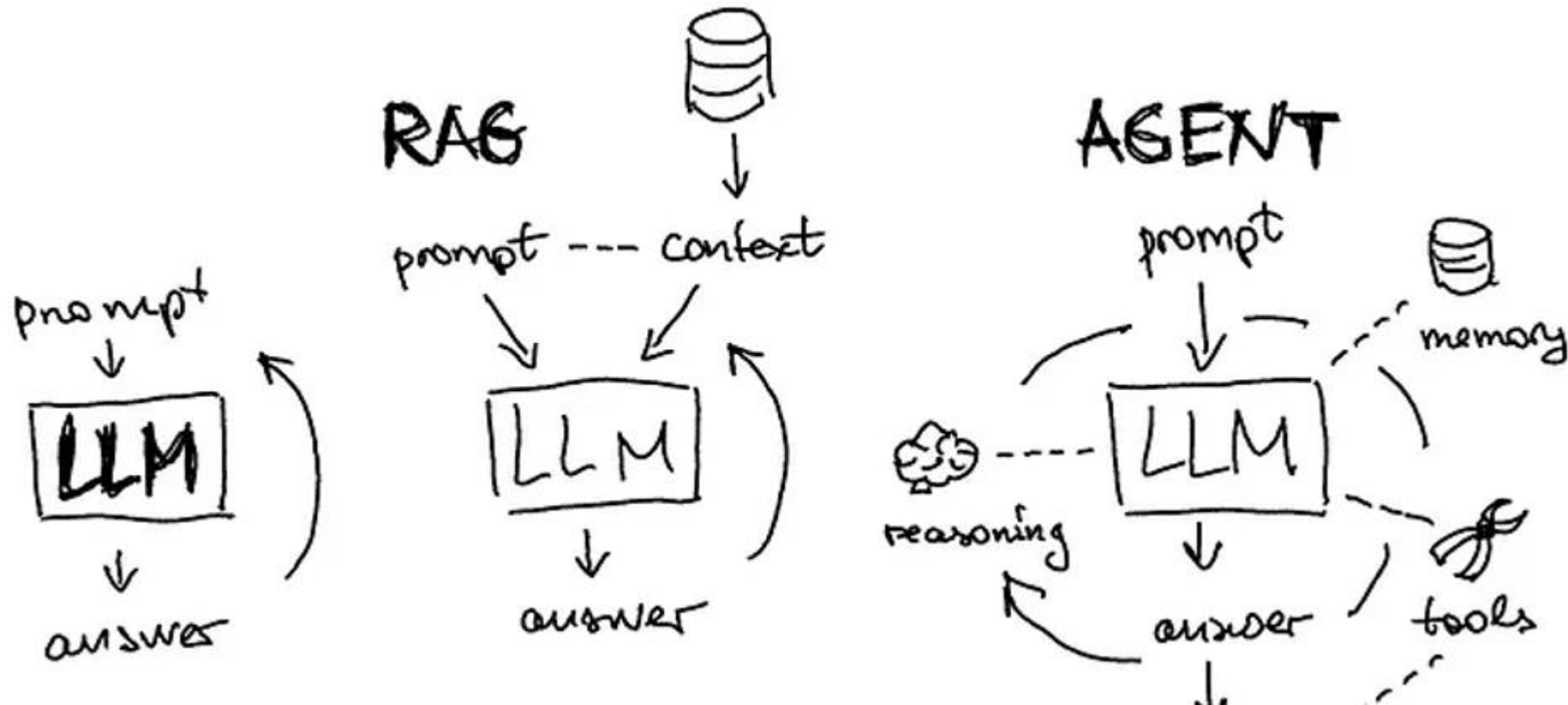
Why RAG?

- Overcome knowledge cut-off
- Enhanced Contextual Understanding
- Domain Adaptability
- Improved Factuality (Less Hallucinations)

AI Evolution: from Assistants to Agents

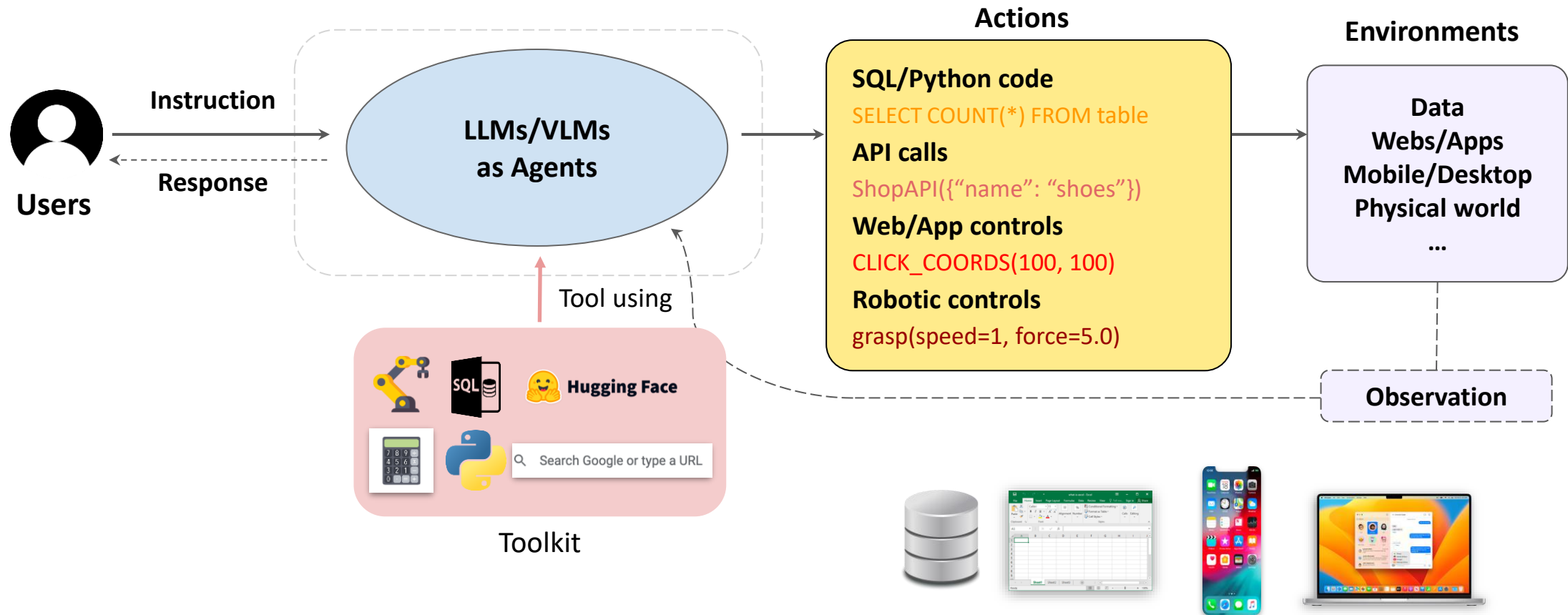


AI Evolution: from Assistants to Agents



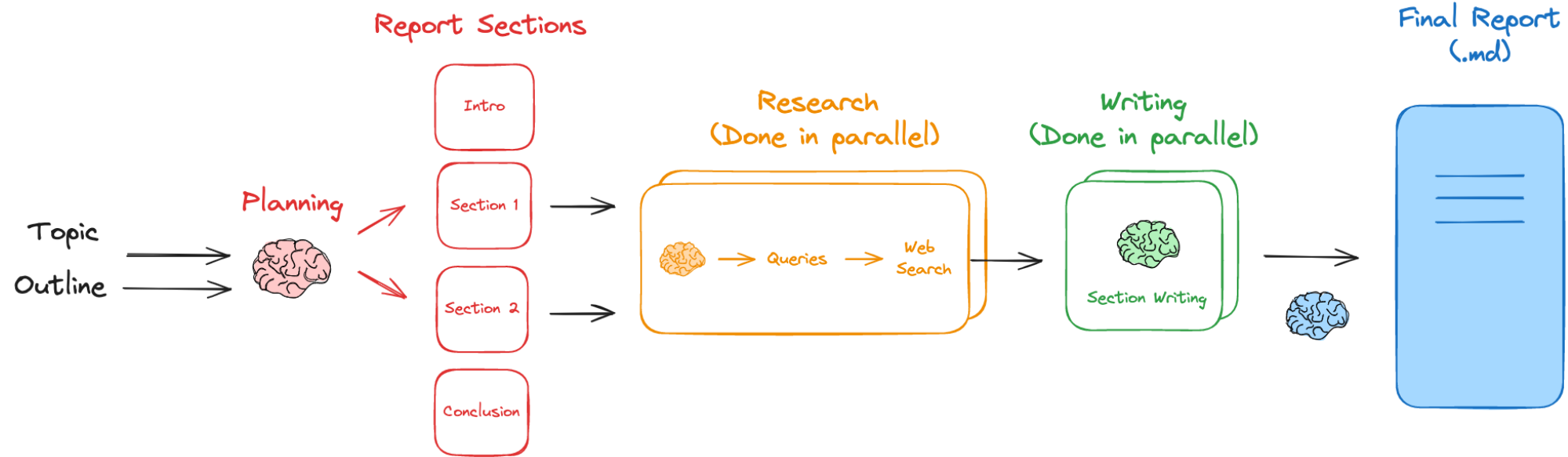
[Picture by Mhammed Talhaouy](#)

LLMs/VLMs as Agents



Report mAlstro: EU Regulation Analyst

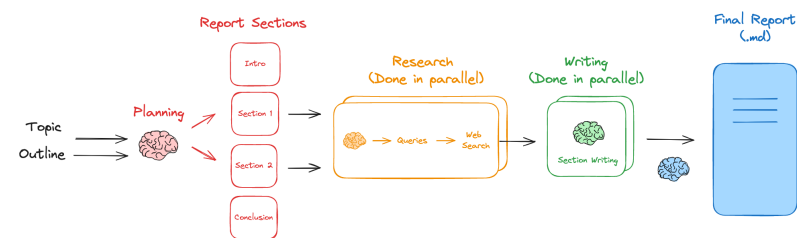
Creating comprehensive reports remains a time-consuming challenge.



Source: <https://github.com/langchain-ai/report-mAlstro>

Report mAstro: EU Regulation Analyst

Creating comprehensive reports remains a time-consuming challenge.

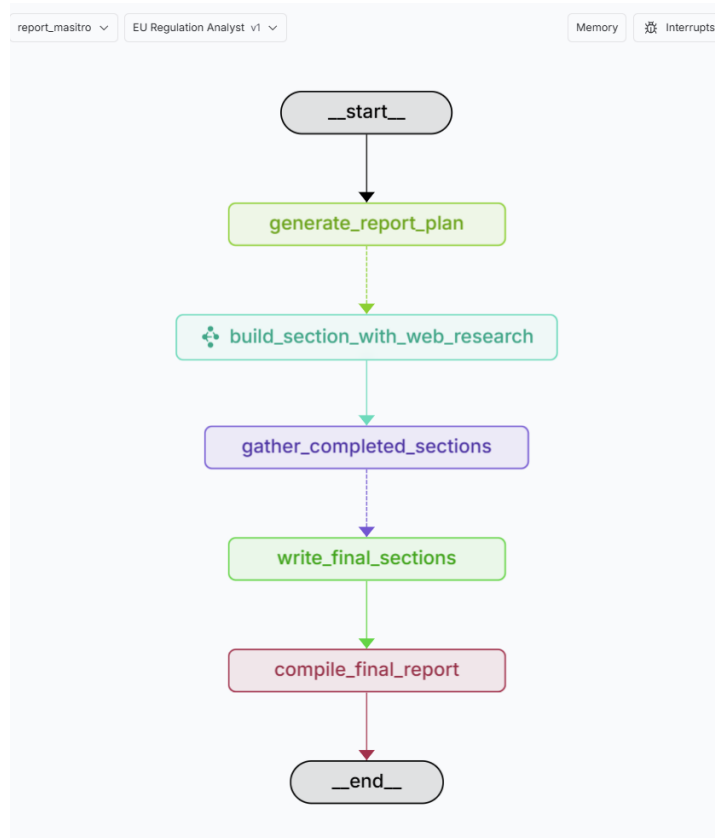


Phase	Objective	Report mAstro Implementation
Structure	How is the report organized?	Uses LLM to convert natural language instructions into structured section objects
Research	What are the information sources?	Web search via Tavily API
Orchestration	How is report generation managed?	Three-phase LangGraph workflow: 1) Planning to define sections, 2) Parallel research for content, 3) Generation of introduction/conclusion using gathered context
Reporting	How is the report presented to the user?	Generates structured markdown files
UX	What is the user interaction pattern?	Synchronous workflow where user provides inputs and waits for the report to be generated



Source: <https://github.com/langchain-ai/report-mAstro>

Report mAlstro: EU Regulation Analyst



Prompt: Give an overview of the EU AI act and AI Liability Directive for the following core processes: product management and supply chain.

final_report: |-

Overview of the EU AI Act and AI Liability Directive in the Maritime Industry

The EU AI Act and AI Liability Directive are pivotal regulatory frameworks impacting the maritime industry, particularly in product management and supply chain processes. The EU AI Act, effective from August 2024, mandates stringent compliance for AI systems, categorizing them by risk and imposing rigorous standards for high-risk applications like Maritime Autonomous Surface Ships (MASS). This necessitates robust risk management, data governance, and human oversight to ensure safety and transparency. Meanwhile, the AI Liability Directive introduces harmonized liability rules, emphasizing the need for transparency and accountability in AI operations. It facilitates claims by presuming causality in AI-related damages, urging maritime organizations to enhance documentation and compliance strategies. These regulations underscore the importance of aligning AI technologies with ethical and safety standards to mitigate risks and avoid substantial penalties.

Core Points of the EU AI Act for Product Management in the Maritime Industry

The EU AI Act introduces stringent compliance requirements for AI systems, significantly impacting the maritime industry, particularly in the development and deployment of Maritime Autonomous Surface Ships (MASS). The Act, which entered into force on 1 August 2024, aims to ensure the safe and ethical use of AI technologies across the EU, with specific implications for the maritime sector.

Impacts on Maritime Products

The EU AI Act categorizes AI systems based on risk, with high-risk systems subject to rigorous compliance obligations. For the maritime industry, this includes AI systems used in autonomous ships, which must adhere to strict safety and transparency standards. The Act mandates comprehensive documentation, risk management, and human oversight to mitigate potential risks associated with AI deployment in maritime operations.

Organizational Compliance Requirements

Organizations in the maritime sector must implement robust compliance frameworks to meet the Act's requirements. This includes:

- **Risk Management Systems:** Establishing procedures to identify, assess, and mitigate risks associated with AI systems.
- **Data Governance:** Ensuring data quality and integrity, with measures to prevent bias and ensure transparency.
- **Human Oversight:** Implementing mechanisms for human intervention in AI-driven decisions, particularly for high-risk systems.

Potential Penalties for Non-Compliance

Non-compliance with the EU AI Act can result in substantial penalties. For prohibited AI practices, fines can reach up to €35 million or 7% of a company's annual global turnover. For high-risk AI systems, penalties can be as high as €20 million or 4% of turnover. These penalties underscore the importance of adhering to the Act's requirements to avoid financial and reputational damage.

Compliance Deadlines

The Act's provisions are being phased in over several years. Key deadlines include:

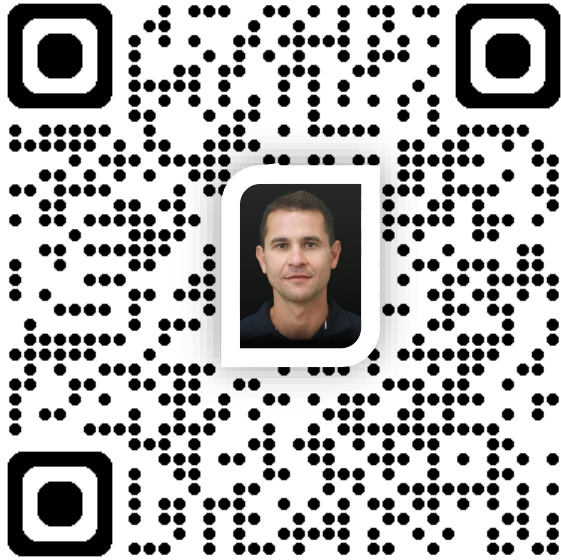
- **February 2025:** Prohibitions on certain AI practices take effect.
- **August 2025:** Requirements for general-purpose AI models become applicable.
- **August 2026:** High-risk AI systems, including those in the maritime sector, must comply with the Act's comprehensive requirements.

Next Steps for Ensuring Compliance

Recap

- Generative AI: innovation opportunities
- AI Evolution: from Assistants to Agents
- Demo: EU Regulation Analyst





Thank You

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