

# SOFIA TECH DAYS



## Cool Tech Meets Business Value How GenAI Powers Innovation

Petyo Dimitrov

30<sup>th</sup> October 2024

# About me



- 17 years in Software Engineering
- Software Architect in Musala Soft / Qinshift
- Head of Data & AI
- PhD in Computer Science from Technical University of Sofia
- "Distributed Systems" lecturer at Technical University of Sofia



# Agenda



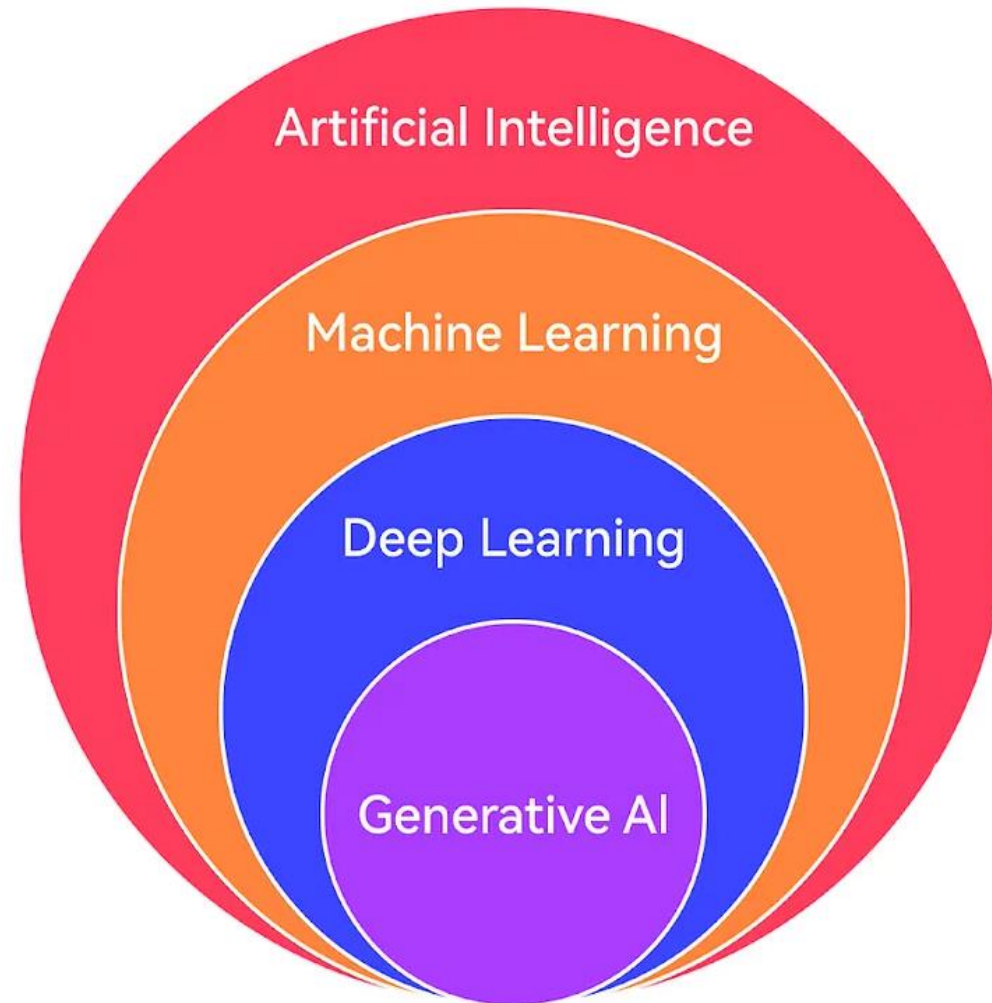
01 GenAI in a Nutshell

02 Case Studies

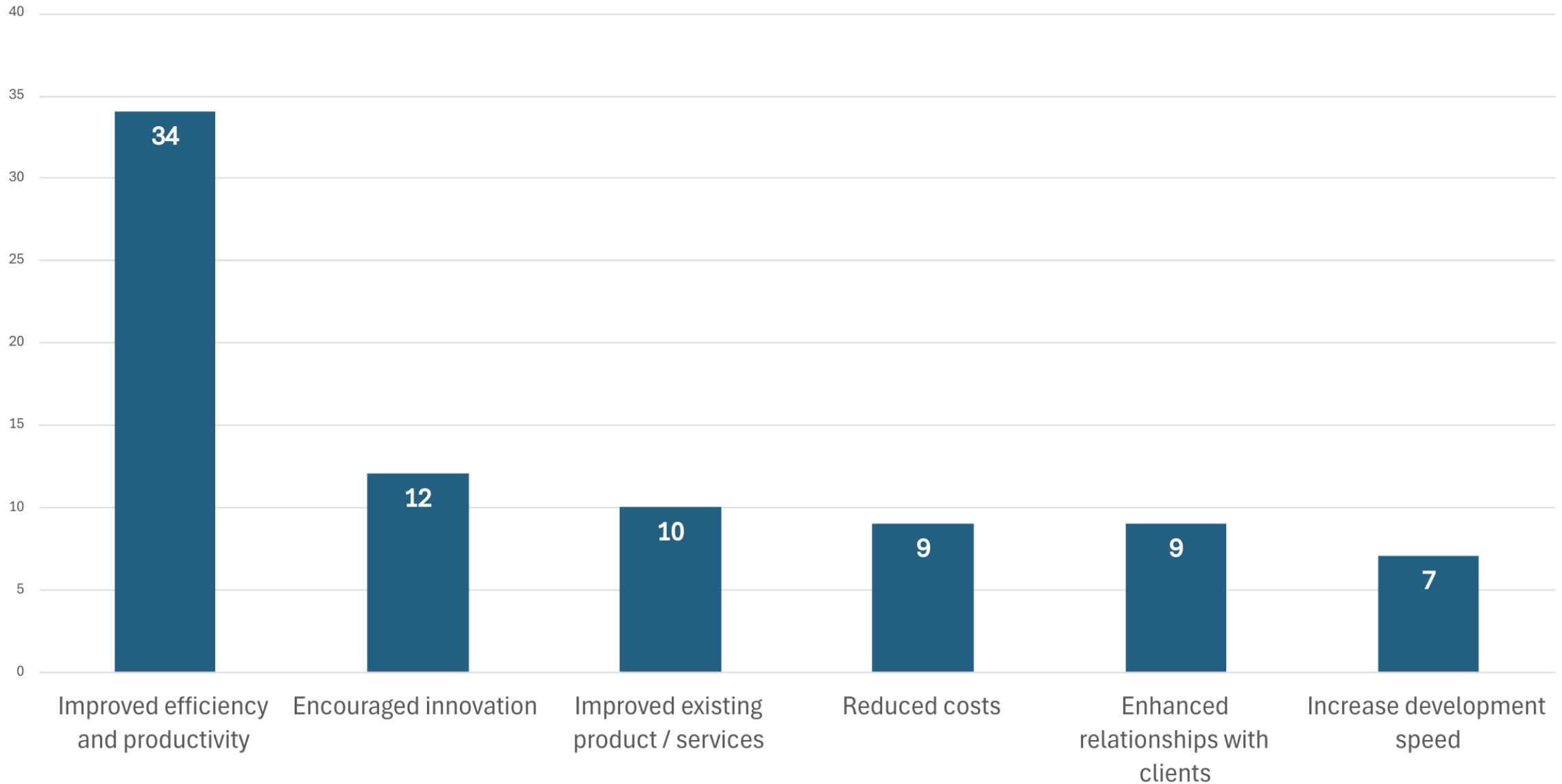
03 Lessons Learned

04 Trends in AI

# What is Generative AI?



# Top Benefit Achieved Through GenAI





# Cross-industry Applications



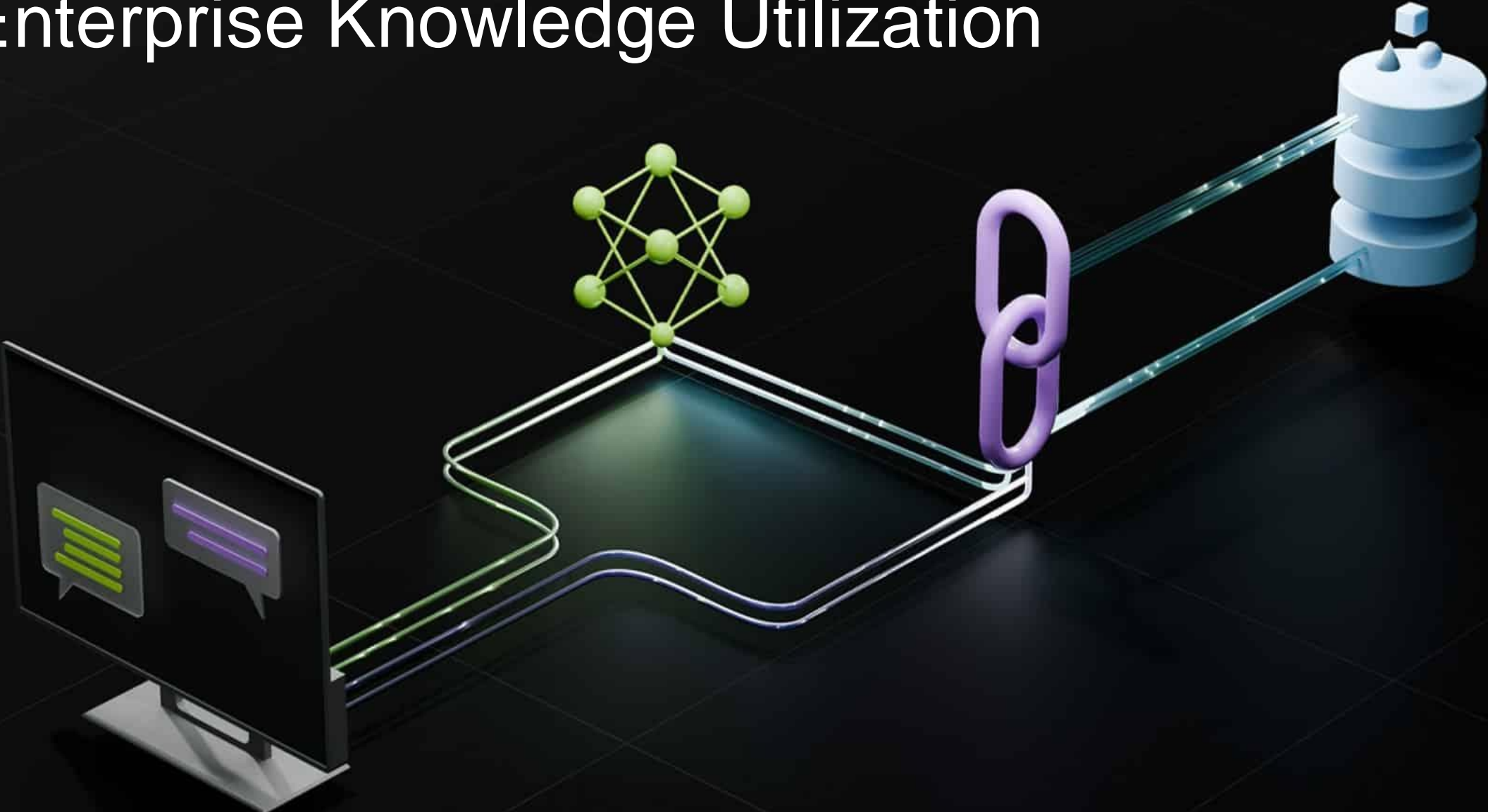
# Contact Centres & Customer Service

# Content Generation





# Enterprise Knowledge Utilization



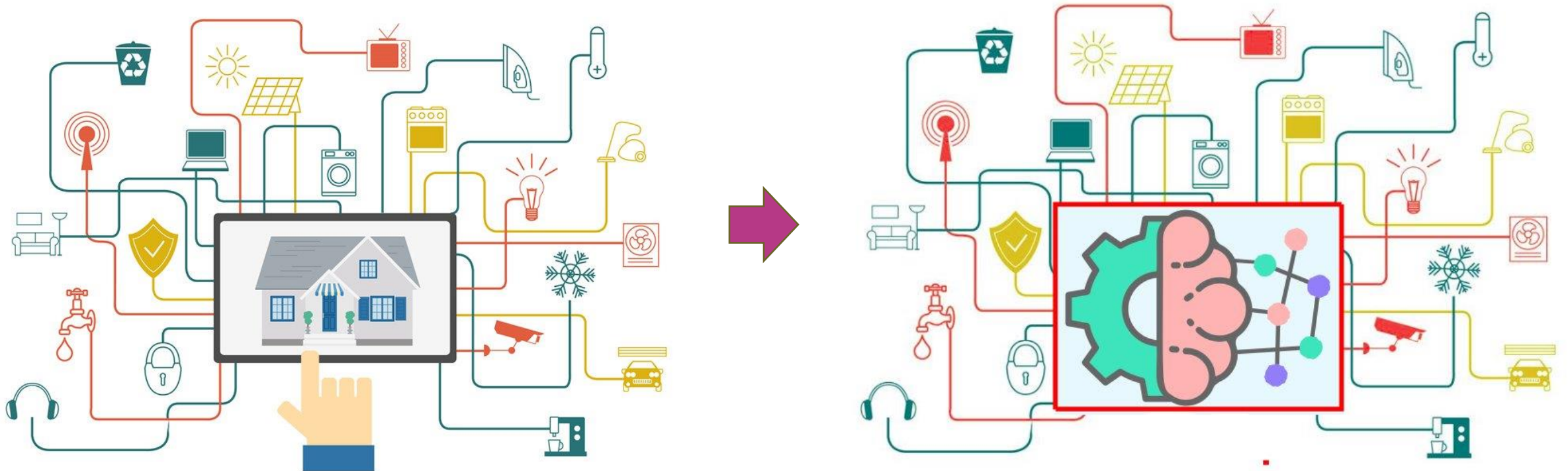
# Personalization



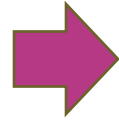


# Case 1: Intelligent Home

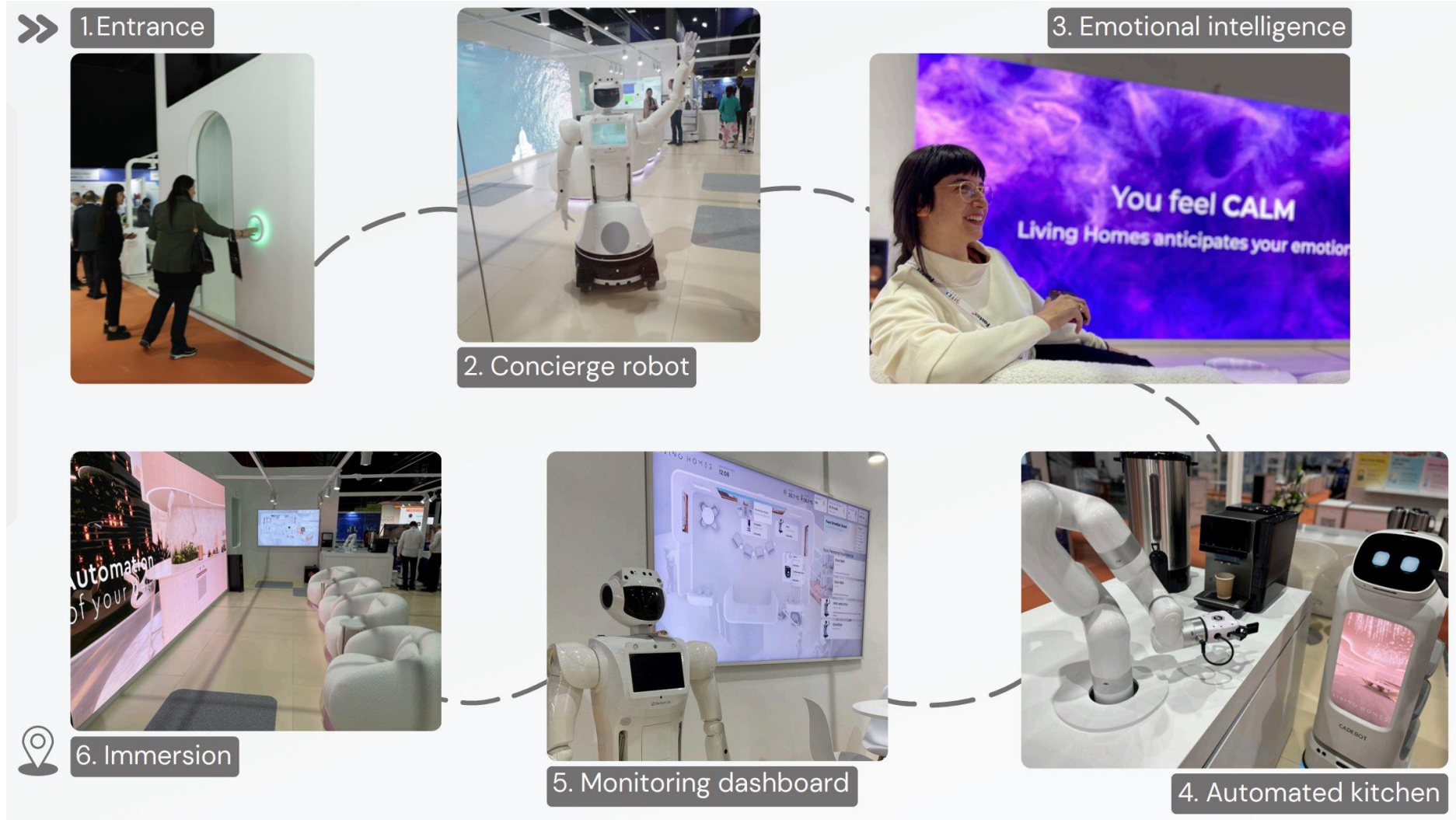
# Problem: Connected/Managed vs Intelligent Home



# Problem: Device focus vs Human-centric

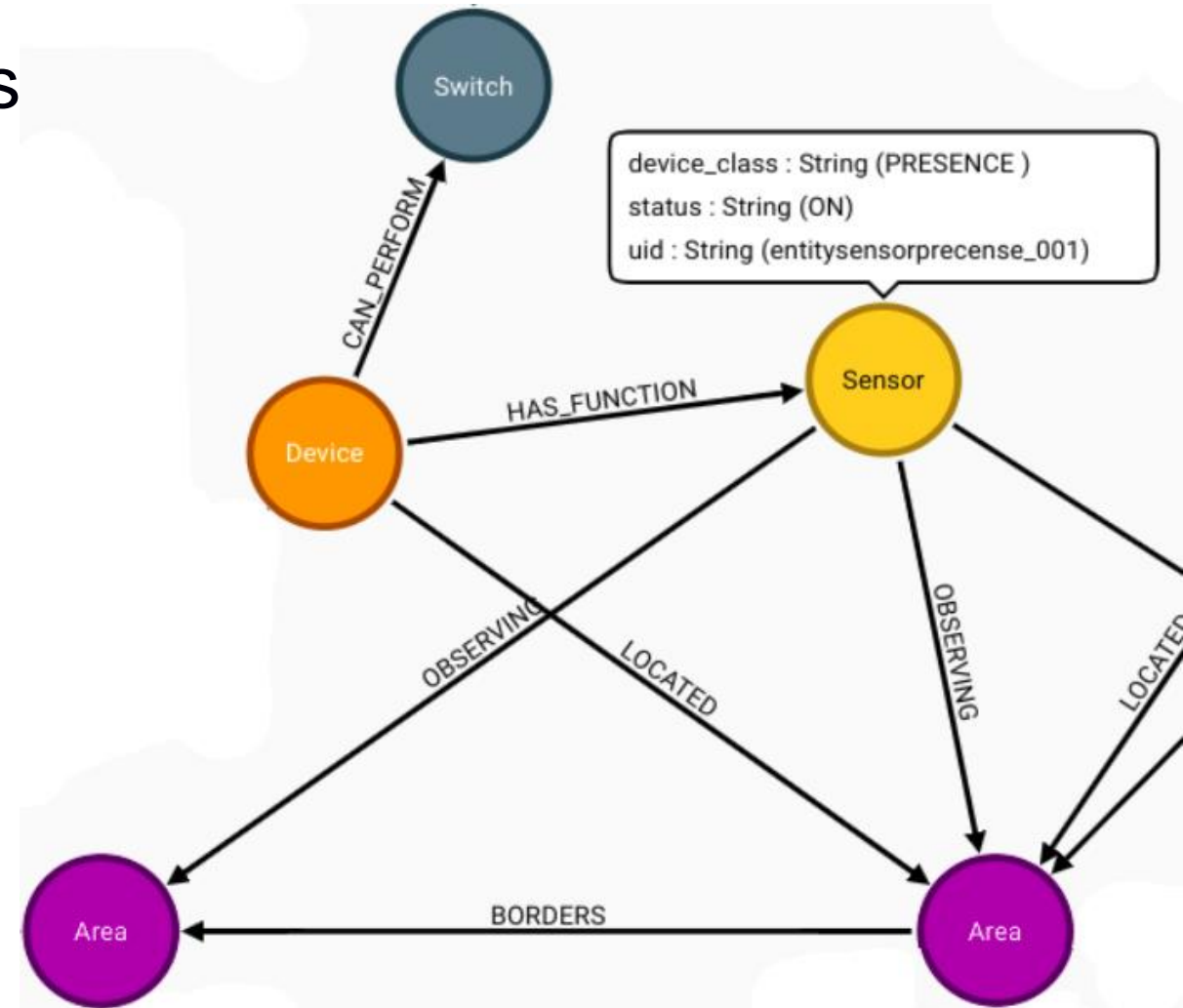


# Example Scenario



# Generative AI Usage

- Uses graph with semantic relations
- "Understands" the capabilities of devices
- Handles queries, commands, and proactive suggestions
- Creates/updates smarthome automation workflows



# Other AI Components

- Intelligent Virtual Assistant
  - Automatic Speech Recognition
  - Text-to-speech with emotions
  - Lipsync animations
- Presence and Status Sensing

**Friendly**

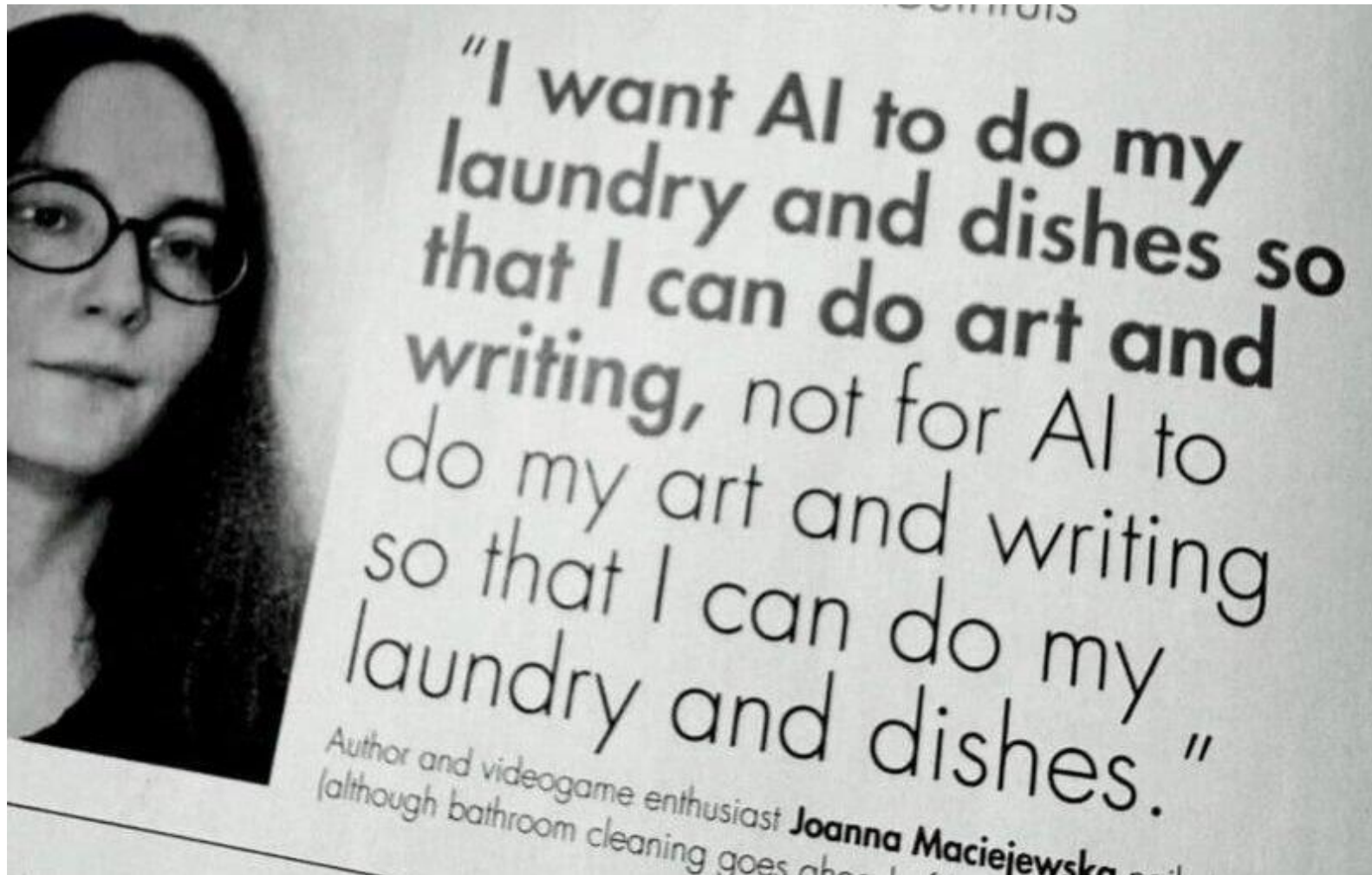


**Caring**





# Why it's cool tech?





# Case 2: GenAI in BFSI

# Evolution Stage 1 – Enterprise ChatGPT



**Client**



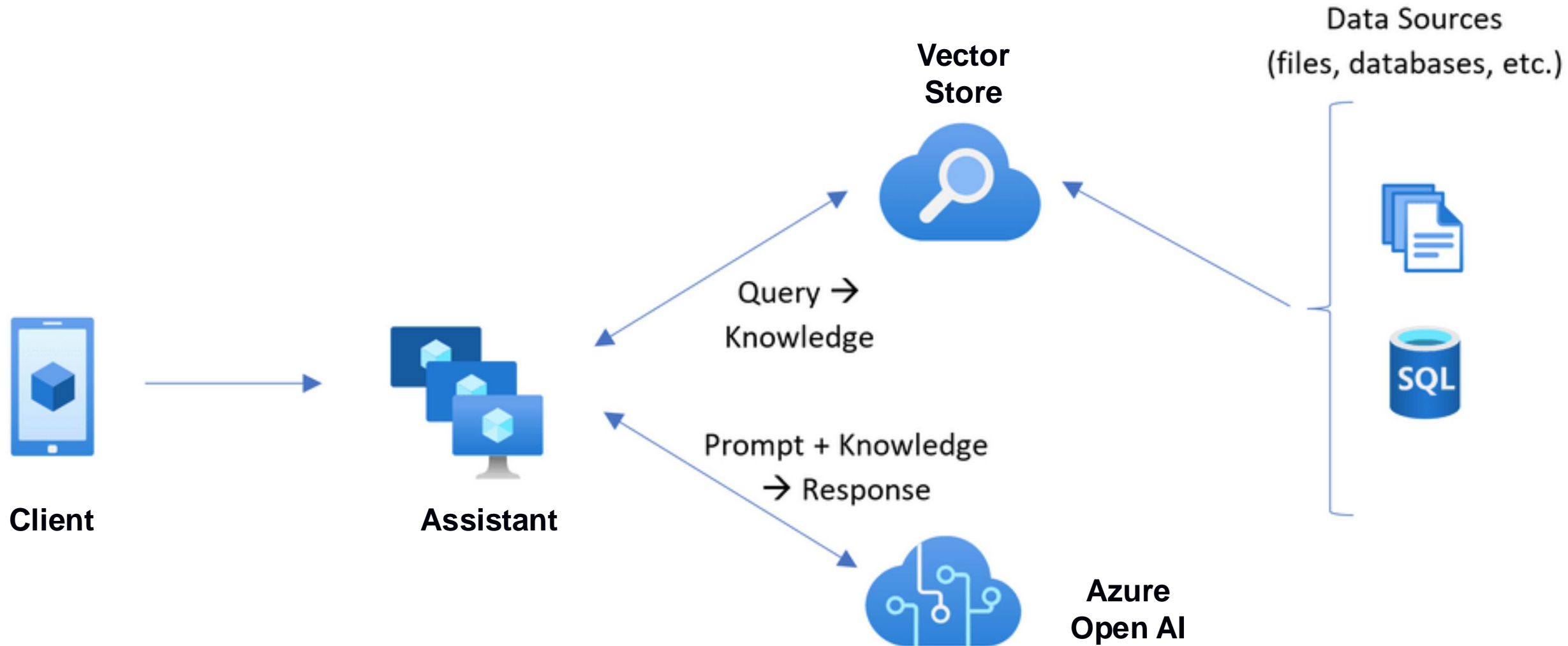
**Custom  
Wrapper**

Prompt → Response

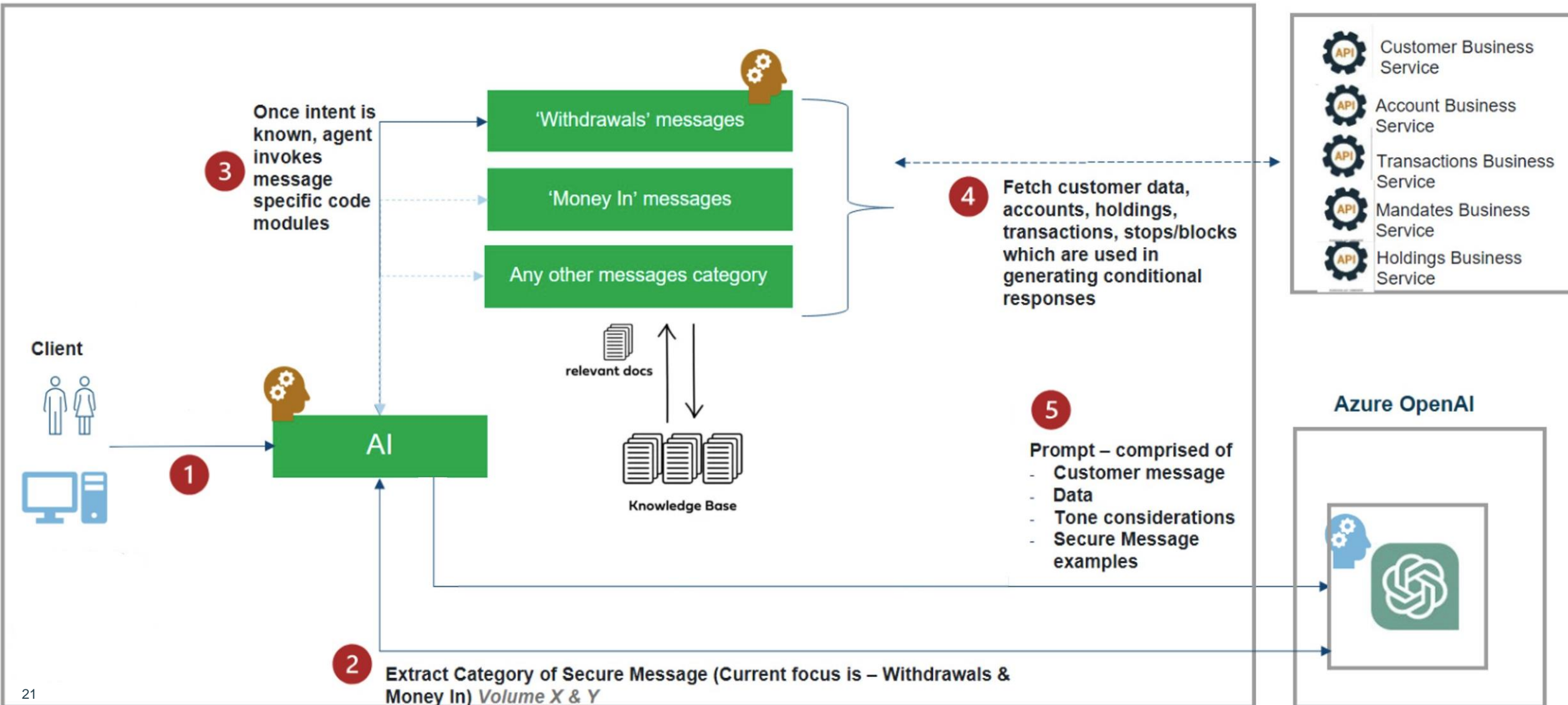


**Azure  
Open AI**

# Evolution Stage 2 – Access Enterprise Knowledge



# Evolution Stage 3 – Contact Center Assistant



# Example

## Client's message

I want to close all my accounts

## Context information

- Has 4 accounts
- Registered in UK
- No stops and blocks found
- No Withdrawal holds on customer level
- Account AS0001 is a Junior ISA (JISA)
- Account AS0002 is a Junior ISA (JISA)
- Customer has brokerage assets on account AS0003.
- Customer has a total invested value of \$1000 in the following 2 assets ["ASSET\_1", "ASSET\_2"] on account AS0003.
- Customer has a cash balance of \$10 on account AS0004.

...

## Response message

In relation to account number AS0001 and AS0002, both are junior ISA accounts. Unfortunately, as the beneficiaries are under the age of 18, these accounts cannot currently be withdrawn or closed. These accounts are only eligible for withdrawal after the beneficiary reaches the age of 18.

...

Please note that for regulatory purposes you will still receive a final Statement & Valuation in the quarter after the account is closed, and a final annual cost and charges document at the end of the year.

...

# Why it has business value?

- 52% reduction in response time to customer inquiries
- Noted increase in customer satisfaction score in 3 months
- Roadmap extended outside the initial use cases

# Technologies



Open AI



Claude



Mistral



Llama



Gemini



Azure



Vertex



SageMaker



Mongo



Postgre



Qdrant



Milvus



Chroma



Neo4j



Python



Langchain





# Lessons Learned

# Lessons Learned – Technical (1)



- Use queries on structured source data
- Filter/rank the results after retrieval via LLM
- Generate unified keywords on the content via LLM
- Create a benchmark for continuous testing
- "Garbage in, garbage squared"

# Lessons Learned – Technical (2)



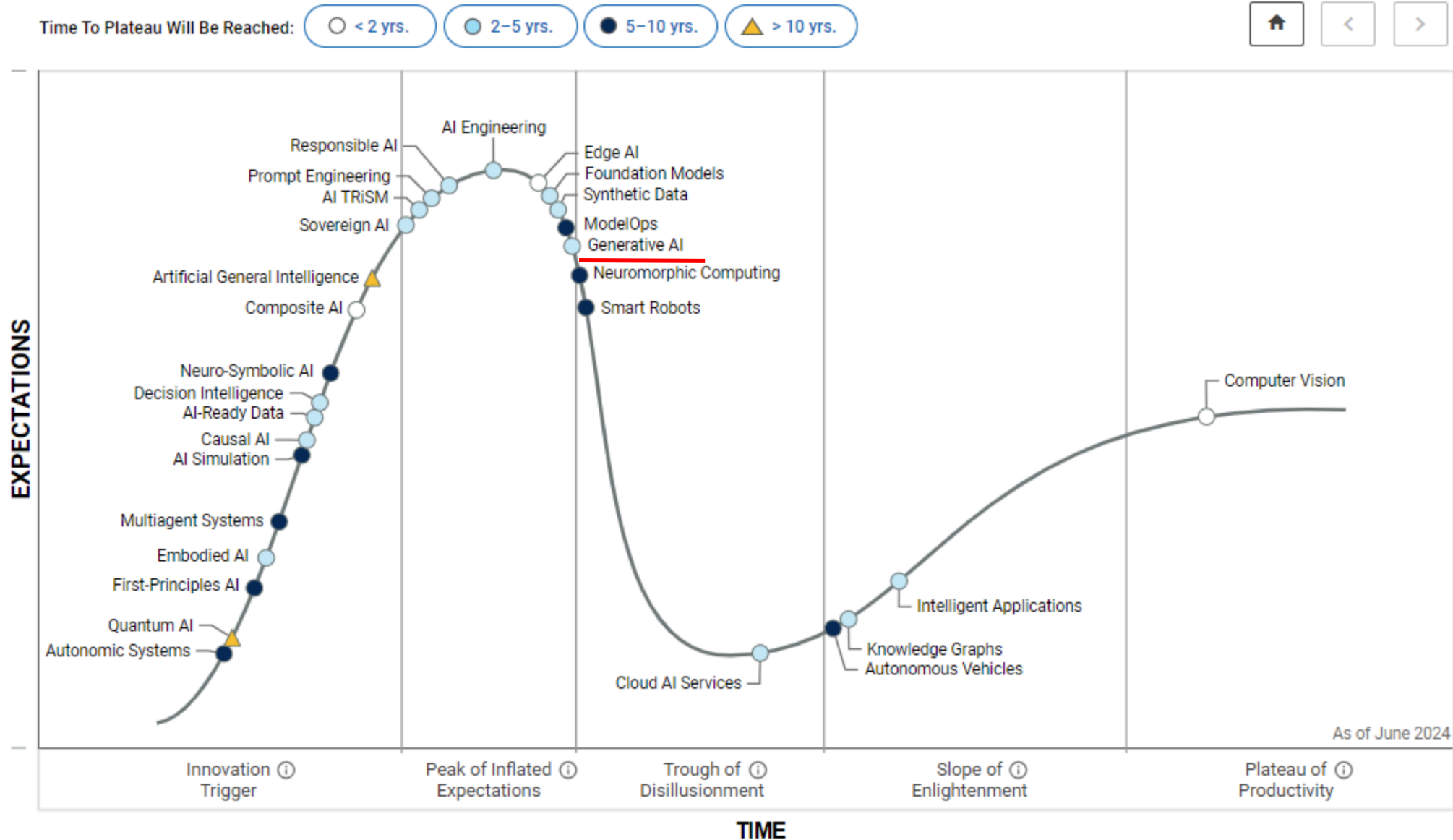
- Setup convenient flow for user feedback
- Hybrid strategy to LLMs
- Published benchmarks are not guaranteed
- Latency issues

# Lessons Learned – Non-Technical



- Manage client expectations
- Ensure proper success metrics
- Regulatory and compliance considerations
- Issues identifying suitable use cases

# Trends in AI



# Thank you!

**Petyo Dimitrov**

Head of Data & AI, Qinshift

[petyo.dimitrov@qinshift.com](mailto:petyo.dimitrov@qinshift.com)

[www.linkedin.com/in/petyo-dimitrov](https://www.linkedin.com/in/petyo-dimitrov)



Discover the  
**Unexpected**  
#UniquelyExperian