



**Shaping the Future:
Integrating AI to reinvent business & industry**

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**German University of Digital Science
Board Member, Board Advisor and Senior Advisor**

Llama 4, April 5 2025: Meta's Advanced Multimodal AI Model



Llama 4: Leading Multimodal Intelligence

Newest model suite offering unrivaled speed and efficiency

Llama 4 Behemoth

288B active parameter, 16 experts
2T total parameters

The most intelligent teacher model for distillation

Preview

Llama 4 Maverick

17B active parameters, 128 experts
400B total parameters

Native multimodal with 1M context length

Available

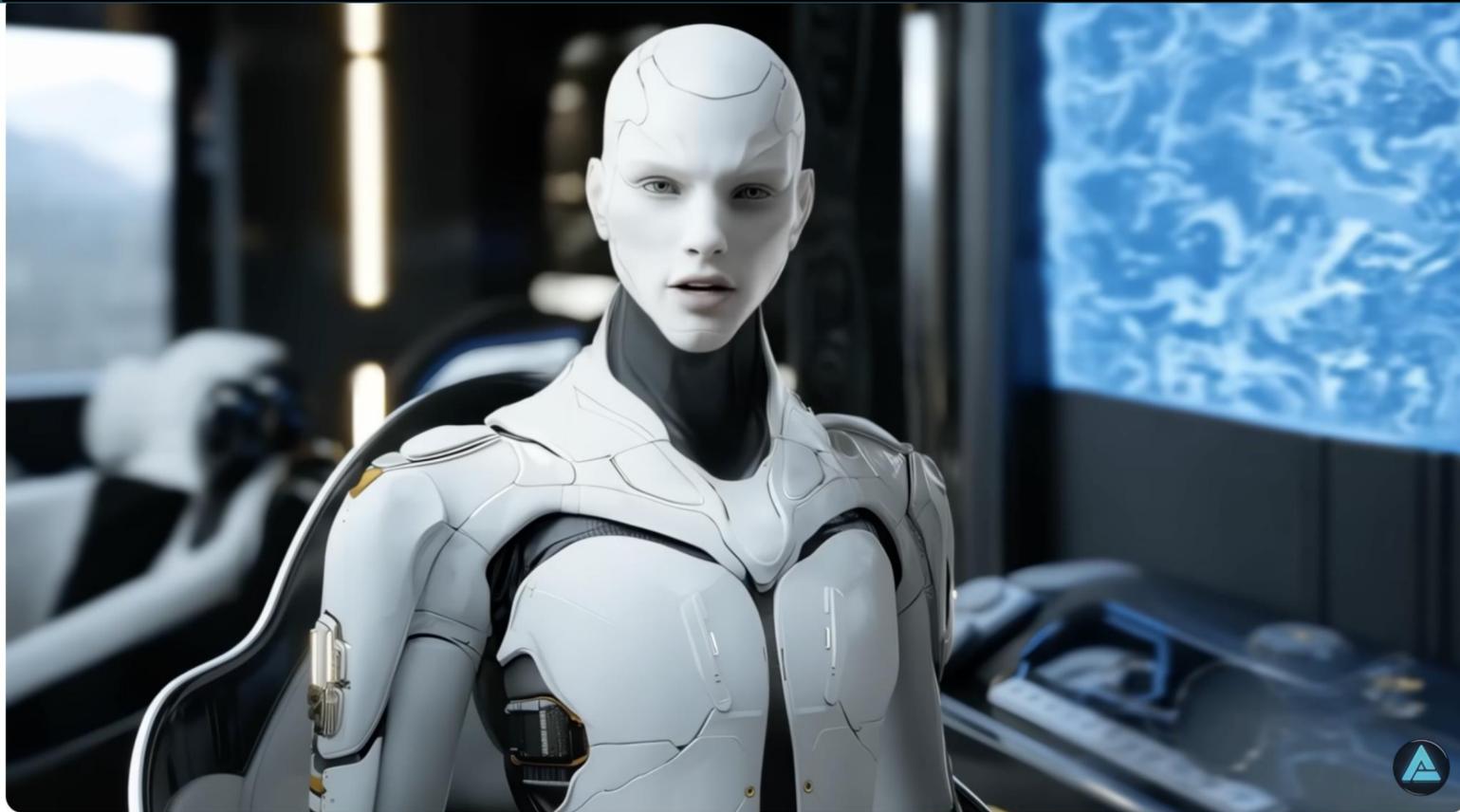
Llama 4 Scout

17B active parameters, 16 experts
109B total parameters

Industry leading 10M context length
Optimized inference

Available

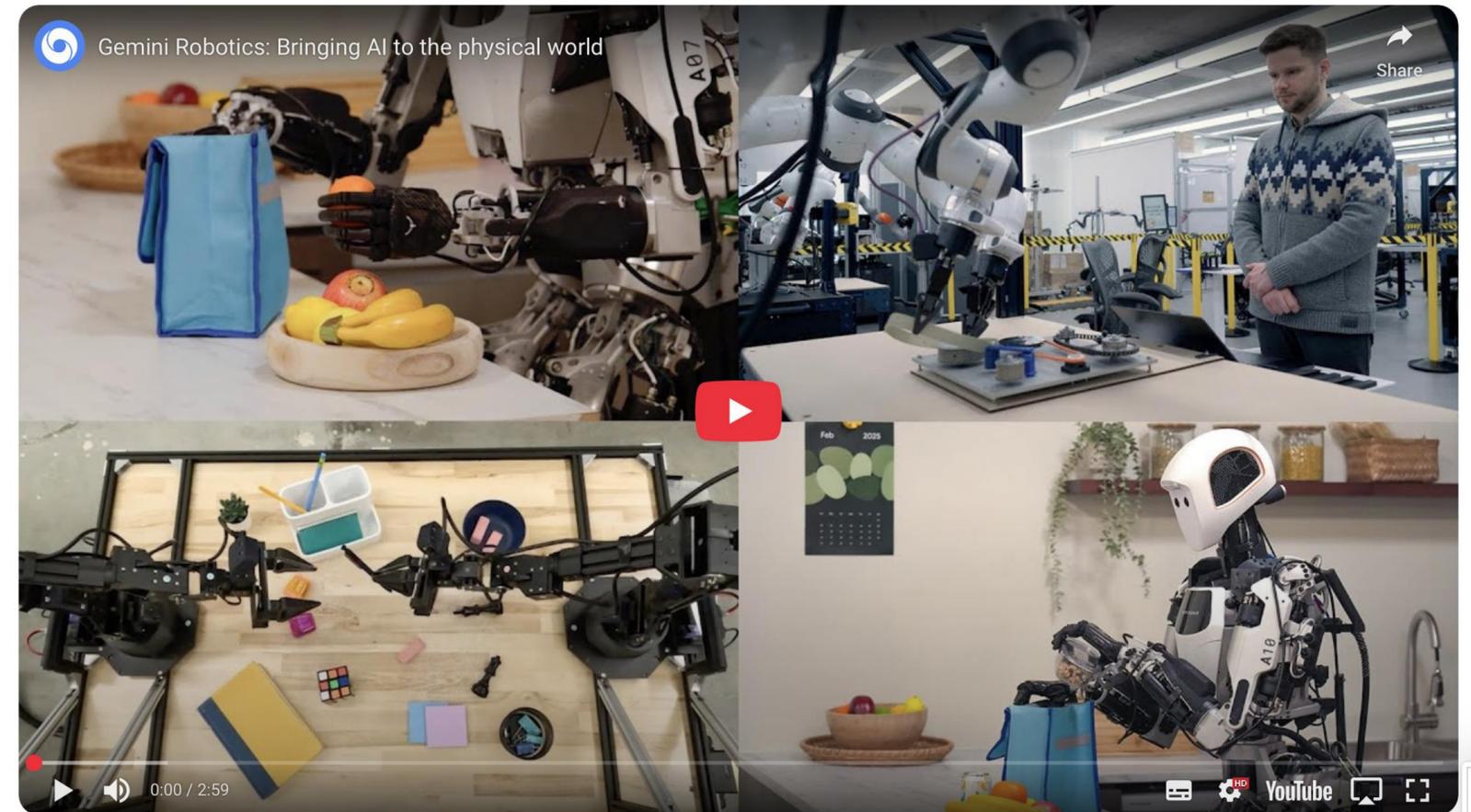
Gemini Robotics, March 12 2025: Bridging AI and the Physical World



Gemini Robotics: Bringing AI to the physical world

YouTube · Google DeepMind · 12 Mar 2025

YouTube



Manus AI, March 6 2025: General-purpose AI agent for complex tasks



AI Strategy: Open Questions for Each Company

- **AI North Star**

- Do we have a clearly defined North Star for our AI strategy?

- **Data Strategy**

- Do we have a comprehensive catalogue or inventory of the data we own, produce, can access, or need to access?
- Are we planning to leverage (Generative) AI to accelerate digitalization efforts for data?
- What is the current state of the data ecosystem within the industry?

- **AI Stack**

- Do we need multiple AI Stacks?

- **Central AI Hubs**

- Should we establish a central AI hub, or should we consider a distributed model with different spokes? Alternatively, should we adopt a hybrid structure with a central group-level AI hub, division-specific AI hubs, and spokes for individual business units?

- **Collaboration with regulators**

- Should we proactively engage with regulators to shape and influence the certification process for AI-empowered or AI-embedded manufacturing, business processes, and AI-integrated products?

- **Thought leadership in our industry**

- In what areas can we establish ourselves as thought leaders within our industry?

AI North Star



AI North Star: Automotive Industry, Car Companies



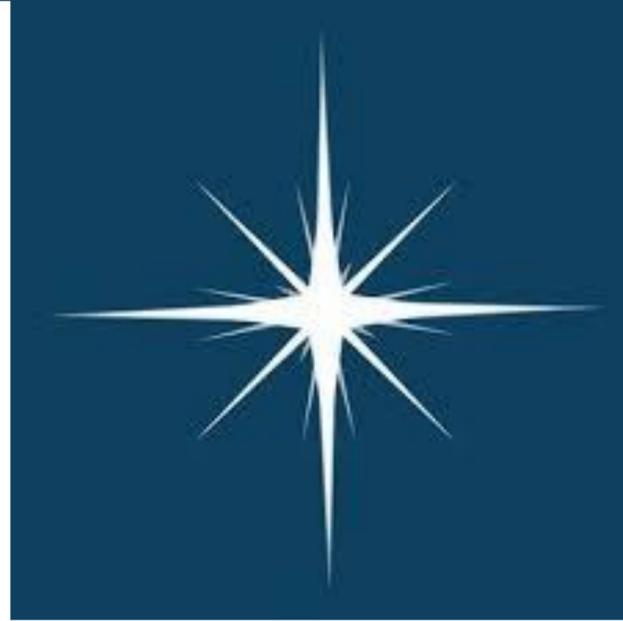
Autonomous Driving



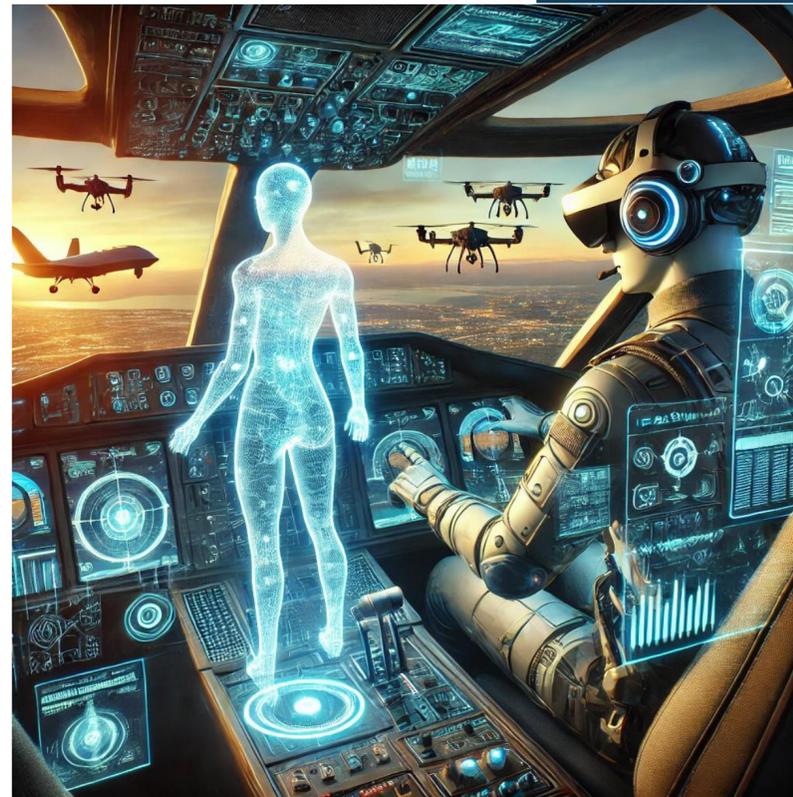
Automation of Manufacturing and Business Processes



AI North Star: Aviation Industry, Commercial Aircraft



AI North Star: Aviation Industry, Commercial Aircraft



AI Copilot



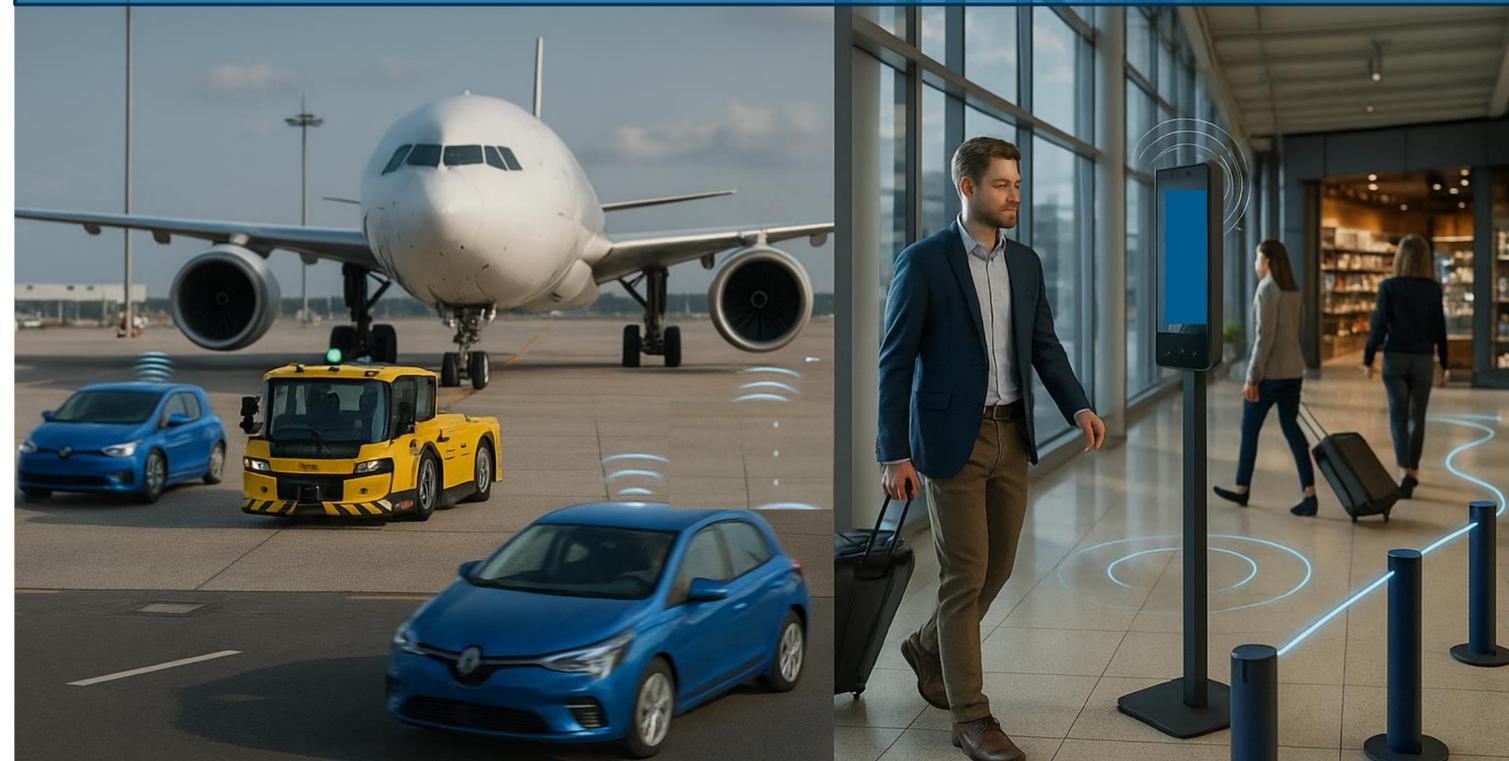
Automation of Manufacturing and Business Processes



AI North Star: Airport



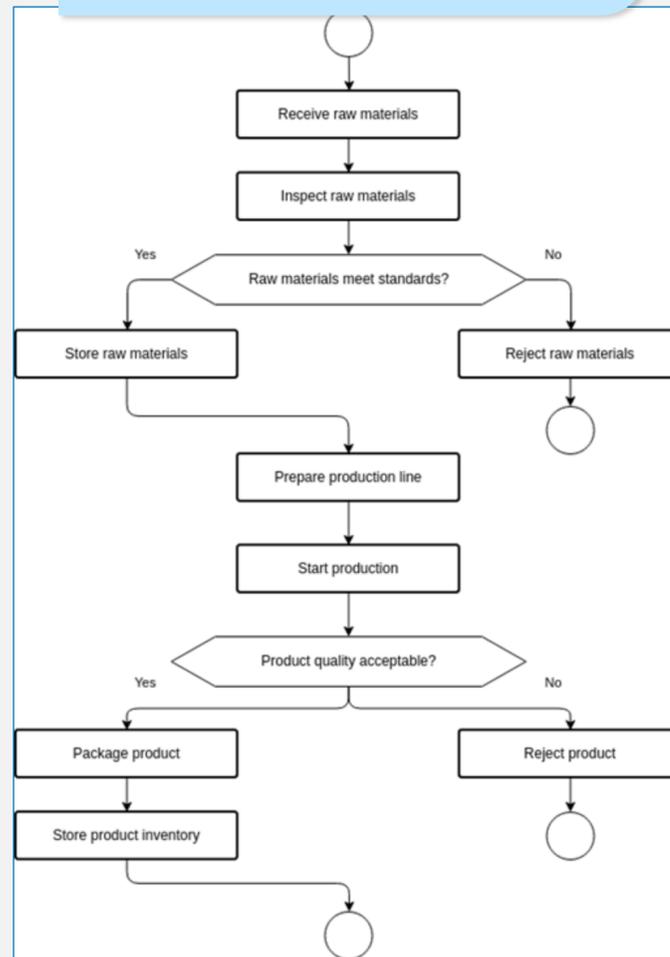
Towards a fully adaptive, self-regulating *airport* ecosystem: Autonomous airport operations and intelligent passenger experience



- Do we have a comprehensive catalogue or inventory of the data we own, produce, can access, or need to access?
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Industry and Business Data are Complex

Flowchart for a manufacturing process



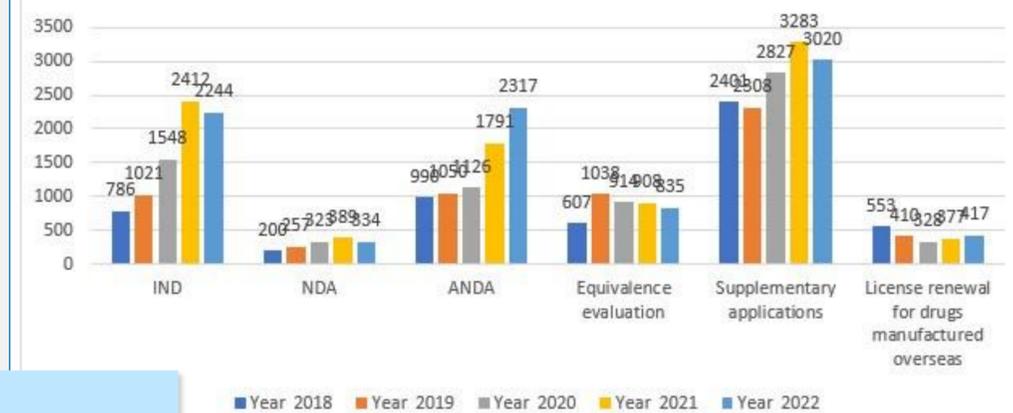
<https://online.visual-paradigm.com/diagrams/templates/flowchart/flowchart-for-a-manufacturing-process/>

Tabular data

Date	Nature	Assets	Paid up Capital	Liabilities	Income	Expenses	Dividends
Jun-01	Capital and Asset(Cash)	50,000	50,000				
Jun-06	Expenses and Asset(Fixed asset)	-10,000				-10000	
Jun-15	Expenses and Asset(Fixed asset)	-5,000				-5000	
Jun-15	Expenses and Asset(Inventory)	-1,000				-1000	
Jun-22	Expenses and Asset(Cash)	-200				-200	
Jun-30	Expenses and Asset(Cash)	-13,000				-13000	
Jun-30	Expenses and Asset(Cash)	-15,000				-15000	
Jul-13	Revenue and Asset(Cash)	35,000			35000		
Jul-18	Expenses and Asset(Cash)	-1,500				-1500	
Jul-31	Expenses and Asset(Cash)	-13,000				-13000	
Jul-31	Expenses and Asset(Cash)	-13,500				-13500	
Aug-05	Revenue and Asset(Cash)	28,000			28000		
Aug-26	Expenses and Asset(Inventory)	-5,000				-5000	
Aug-31	Revenue and Asset(Cash)	-13,000				-13000	
Aug-31	Revenue and Asset(Cash)	-17,000				-17000	
Aug-31	Dividend and Asset(Cash)	-1,000					-1000
Aug-31	Revenue and Asset(Cash)	-3,000				-3000	
		1,800	50,000	0	63,000	-110,200	-1,000

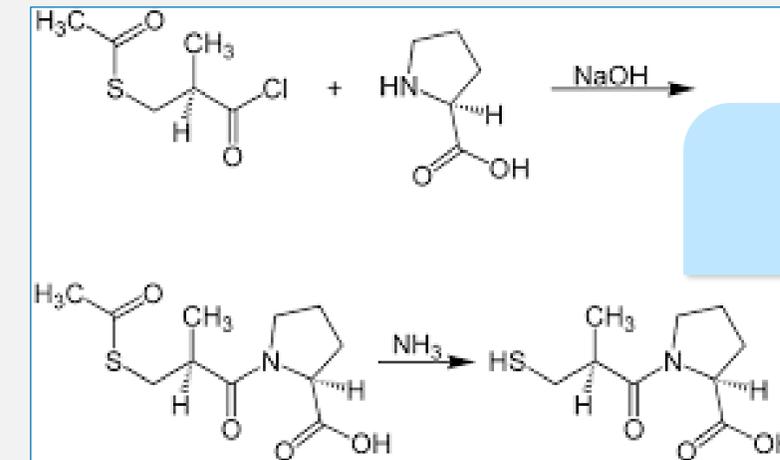
<https://www.wallstreetmojo.com/expanded-accounting-equation/>

Drug applications requiring technical review by type of application



Chart

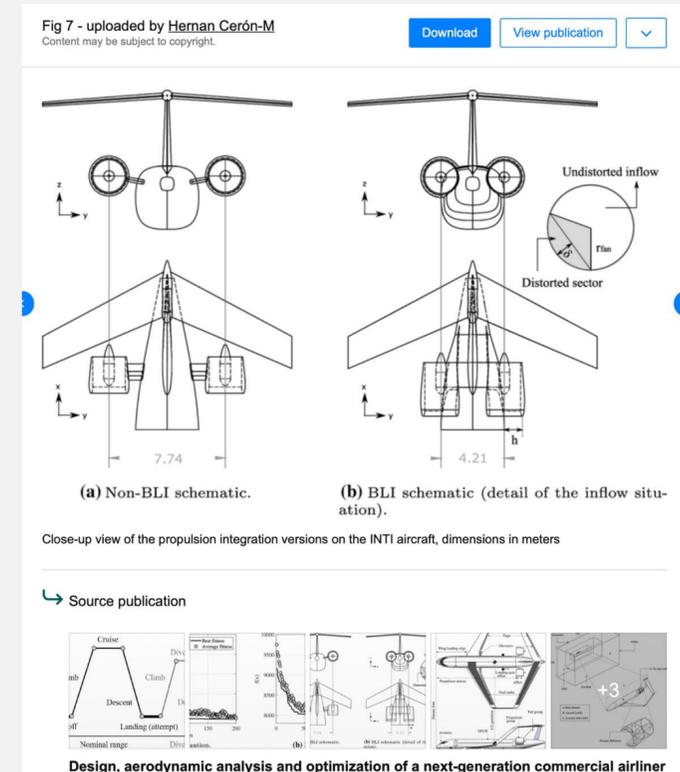
<https://www.cisema.com/en/china-drug-evaluation-report-2022/>



Chemical Formulation

<https://www.sinodoschemistry.com/services/chemical-formulations>

Design 2D and 3D



https://www.researchgate.net/figure/Configuration-and-center-of-gravity-example-of-the-non-BLI-version_fig4_365873381

GenAI increases efficiency and optimizes master data management



- AI Strategy
- AI Experts
- Data Scientist
- UI/UX
- Engineering expertise in Hardware & Software
- Cloud Technologies
- AI/ML Ops



Generative AI for Data Management

BRÜCKNER
GROUP



- Brückner is optimizing data management of large, heterogeneous master data systems (over 500,000 entries) with the help of a customized GenAI app, reducing search times and improving data quality through automated processes.
- The new GenAI app saves engineers several hours each week, sustainably enhances efficiency, and creates space for more valuable tasks in their daily work.

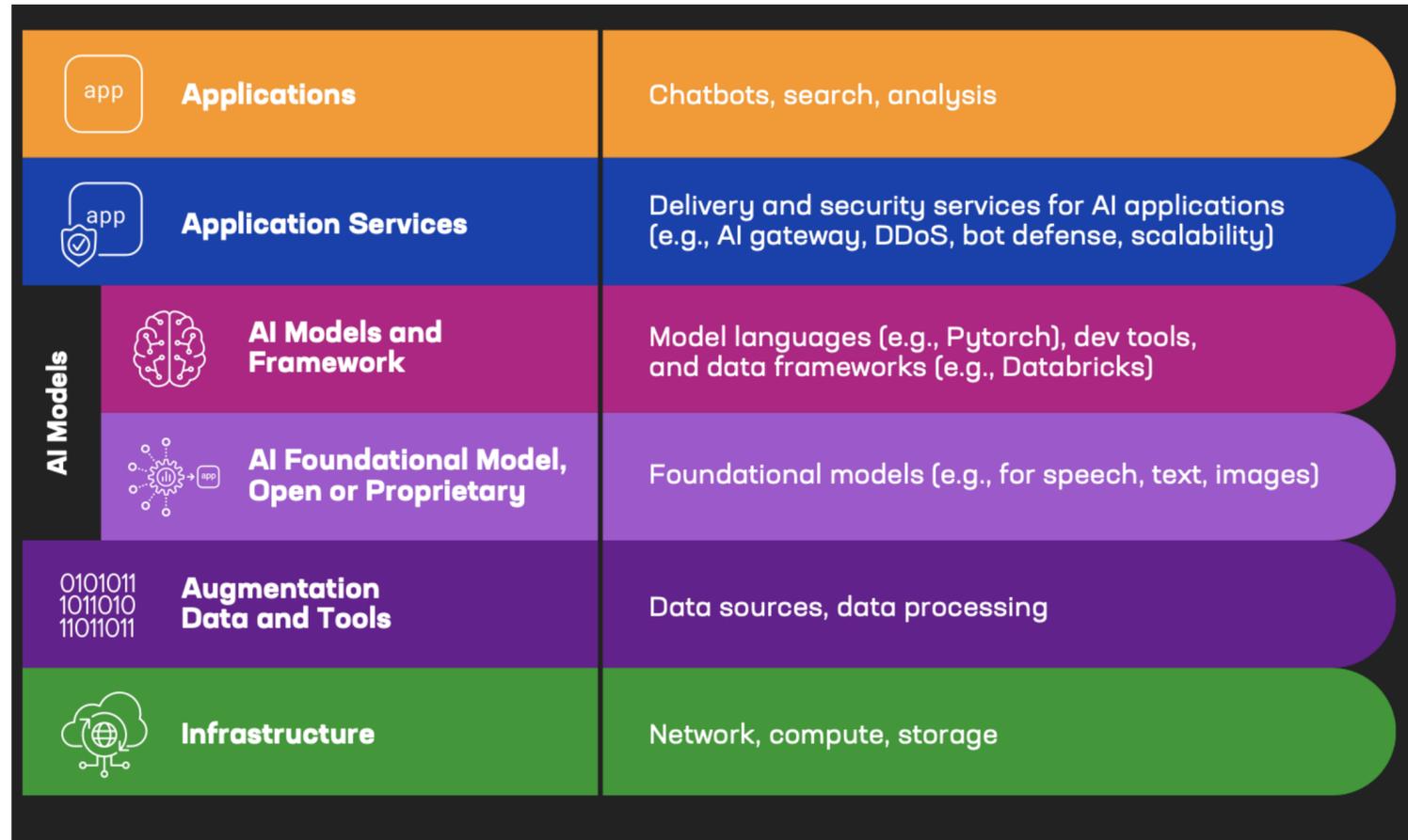


Future of Building Construction



Do we need multiple AI Stacks?

AI Stack



Companies build and use applications

Microsoft Azure, AWS, IONOS, GCORE; F5 Networks, Cloudflare,

Microsoft, Google, Hugging Face, NIVIDIA, DataBricks

PyTorch, Tensorflow, JAX, Hugging Face Transformers, DeepSpeed, NViDIA NeMO

OpenAI, Mistral, Google DeepMind, Antropic, Meta, xAI, Cohere, AI21 Labs, Hugging Face, Stability AI, Alibaba, Baichuan Intelligence

GPT-4, Gemini X, Claude X, LLaMa X, Grok-2, Mistral X, NeMo Megatron, Kosmos-2, T0, Tongyi Qianwen, Baichuan Intelligence

Microsoft Azure, AWS, Google Cloud, DataBricks, Alibaba, Tenecent, Baidu



Microsoft Azure, AWS, Google Cloud, Alibaba, Tencent, Baidu, GCORE, IONOS

Nvidia, Samsung, TSMC, Qualcomm, AMD, Broadcom

<https://www.f5.com/resources/reports/state-of-ai-application-strategy-report>

Gcore: Everywhere Inference

Deploy ML models for fast, secure, scalable inference worldwide.

Gcore at a glance

 **Founded:** 2015

 **Headquarters:** Luxembourg

 **Core Services:**

AI Infrastructure, Cloud, CDN, Edge & Security

 **Global Network:**

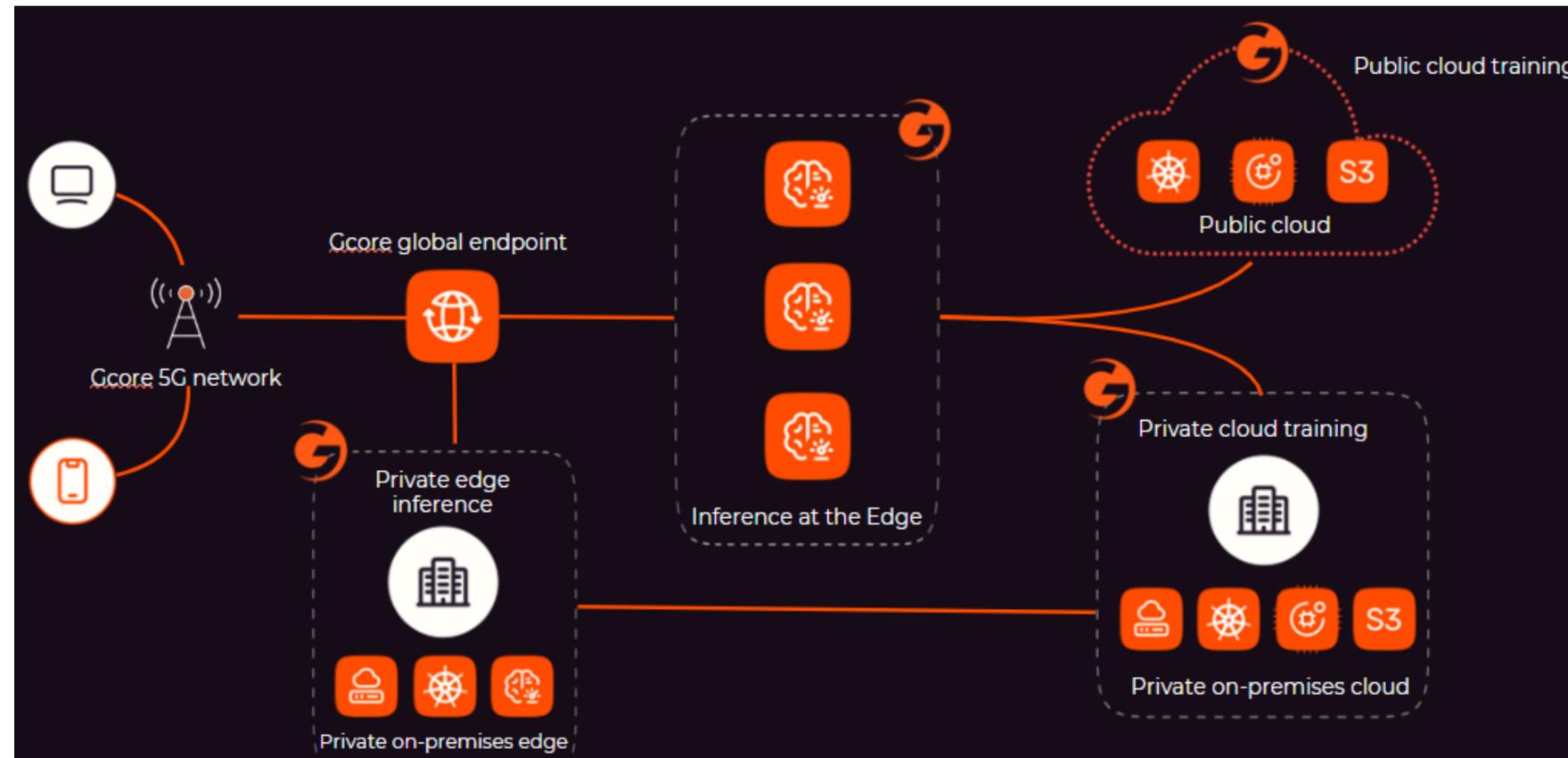
180+ points of presence across 6 continents & 50 Cloud Locations

 **Clients:**

Enterprises, gaming companies, media platforms, and public sector organizations

 **Mission:**

To deliver innovative AI and cloud solutions to create a smarter, more connected, and secure world for everyone



Fast model response times for real-time applications
30 ms average network latency globally



Run models **securely close to your users**, minimizing data transfer
Automatically route to the nearest location



Dynamic scaling, **usage-based pricing.**

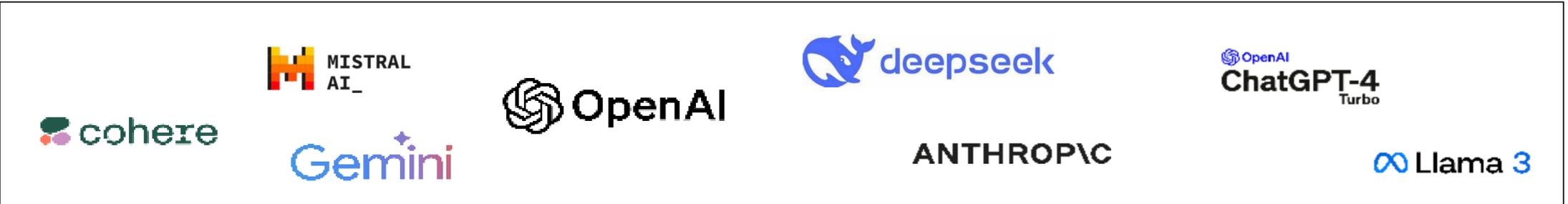


Connect with Gcore

- Website: gcore.com/everywhere-inference
- E-Mail: elena.simon@gcore.com
- Elena Simon General Manager Gcore GmbH

Dynamic Hybrid Language Model (DHLM)

Approaches to fit LLMs to specific industry & Enterprise needs

Offering	LLMs / Foundation Model	Finetuning a pre-trained model	In-context learning large context window	Dynamic Hybrid Language Model (DHLM)
Features	<ul style="list-style-type: none"> High training costs Re-training necessary Requires a lot of data Hallucination Lack of Transparency 	<ul style="list-style-type: none"> High training costs Re-training necessary Limited availability, e.g. not for GPT-4 LLM specific Hallucination Lack of Transparency 	<ul style="list-style-type: none"> No upfront investment No re-training LLM agnostic High run-time cost 	<ul style="list-style-type: none"> No upfront training necessary No re-training LLM agnostic Minimal cost High quality Dynamic control over content Dynamic content inclusion Capability to “Forget”
Examples				

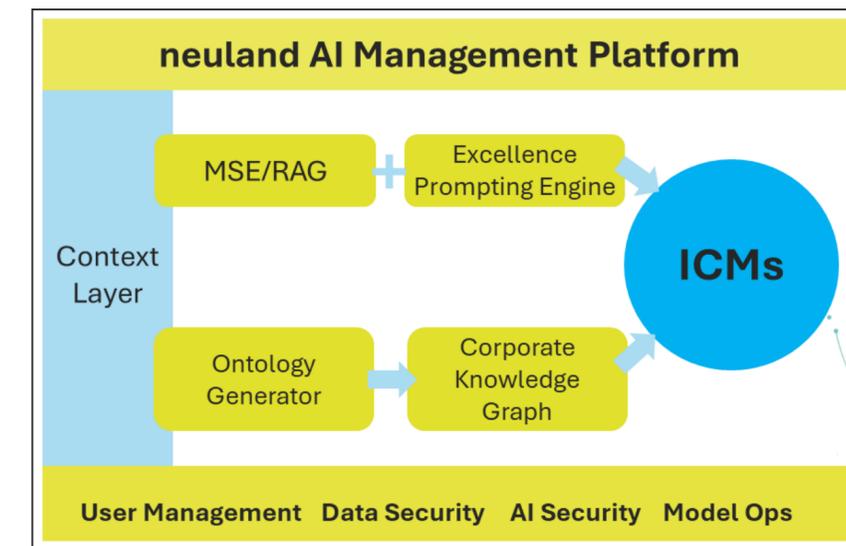
Market Overview

So many tools, so few vertical solutions that integrate with others → Costly. Insecure. Dangerous.



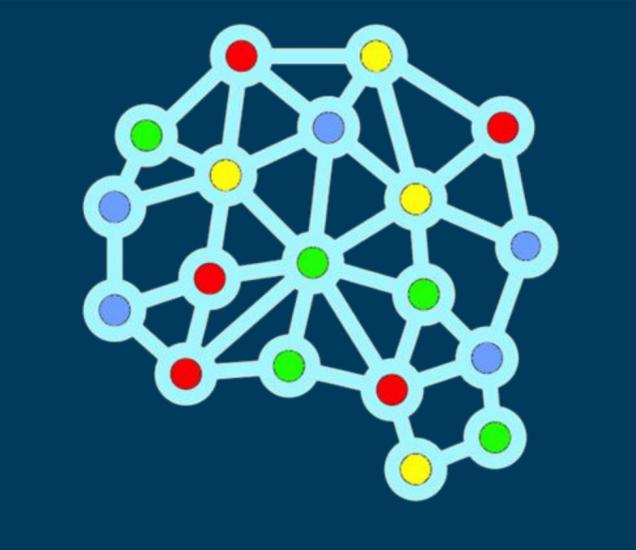
The market for AI tools and AI infrastructure solutions has *grown into a nightmare zoo of opportunities* – deployed at large.

→ **AI Management Platforms** are the next level for *trust-worthy Enterprise AI* solutions. Without - it cannot be managed.

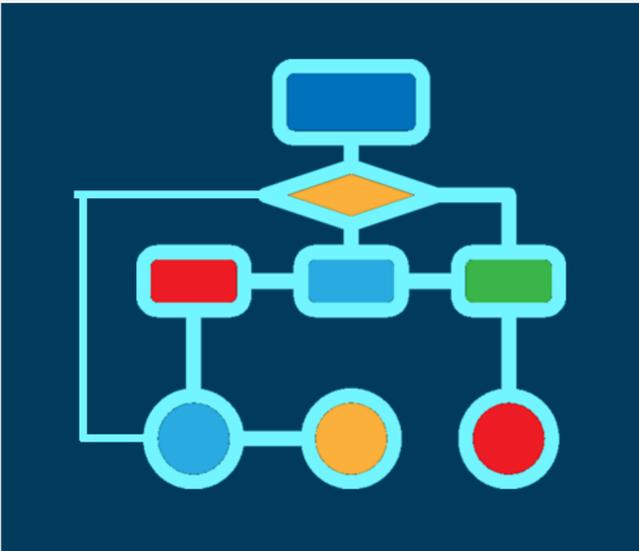


Generative AI Market Map, V3
Source: Sequoia Capital (work in progress)

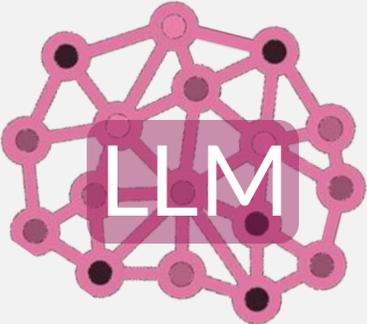
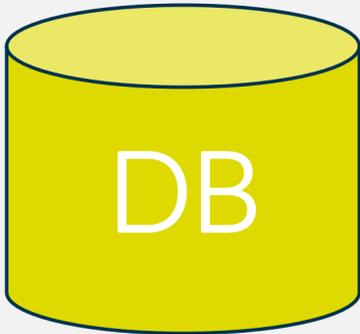
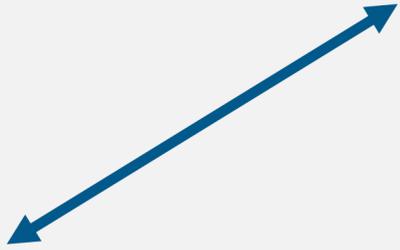
Agents are needed for complex business solutions



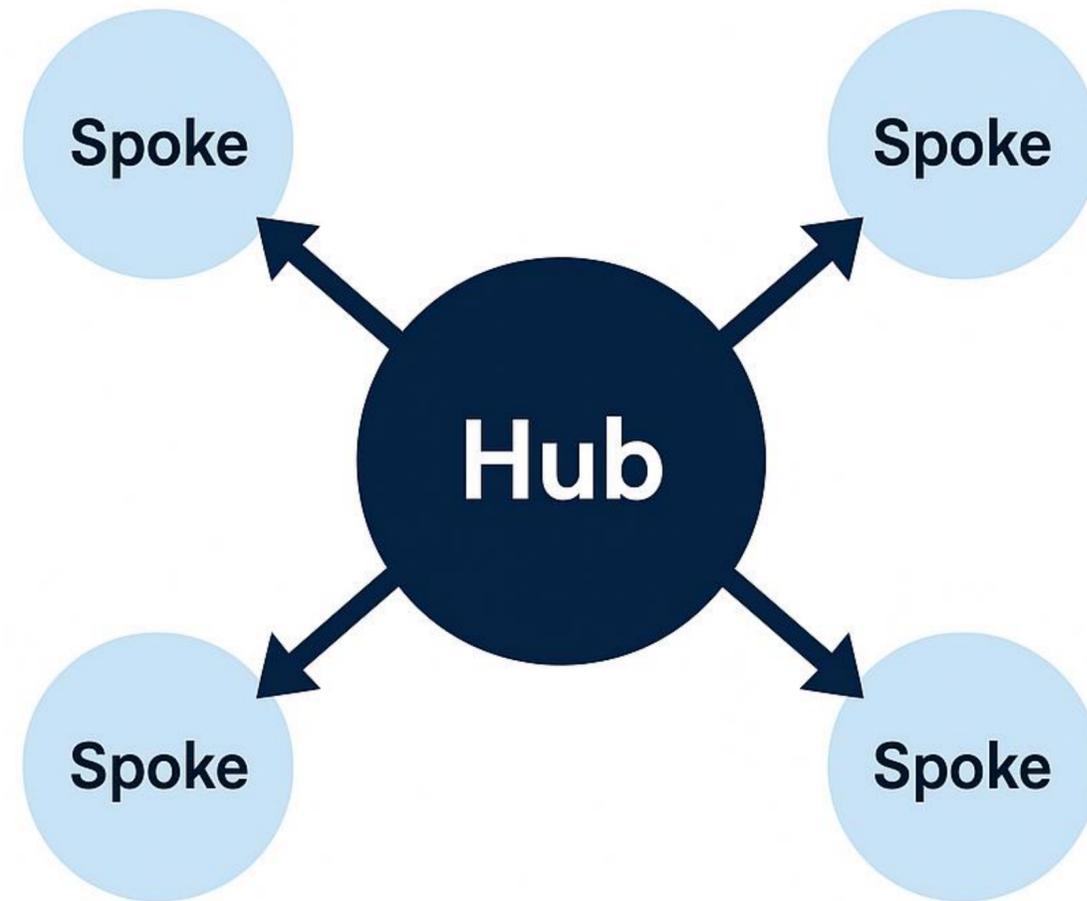
LLM



Agent with scripts,
Workflows and
plans



Hub-and-Spoke AI Collaboration Framework



Responsibility of the Central AI Team/Hub

Strategy

- Group level AI strategy
- Steering AI ethics policy
- Data legal framework
- AI regulations
- Identifying and monitoring Ecosystem
- Partnership in AI
- AI Investment strategy

In collaboration with Board, Strategy, Legal and Corporate Venture and Partner teams

AI Stack and AI Platform

- Building up AI Stack
- Establishing AI application development lifecycle
- Evaluating and benchmarking AI technology vendors

In collaboration with IT, Product and Engineering teams

Product Management

- AI application product management
- Quality control
- AI academy
- Collaboration with the product owners and AI teams in the business units
- Definition of industry specific data and AI benchmarks

In collaboration with Product and Engineering, Function, Legal, HR and Regulators

AI Governance in the Board/Supervisory Board

Strategy

- Integrate AI into corporate strategy
- Monitor market trends and adapt
- Define goals and manage resources

Risk

- Define AI risk tolerance
- Evaluate bias, hallucination, third-party risks
- Structure monitoring and reporting

Governance Structure

- Clarify responsibilities in Board & Management
- Framework for Trustworthy AI
- Committee structure with AI oversight (Digital Committee)

Performance

- Financial & operational KPIs for AI
- Regular goal tracking
- Ensure continuous improvement

Talent

- Assess skills to implement AI strategy
- Promote education & training
- Succession planning with AI focus

Culture & Integrity

- Foster culture for responsible AI
- Transparent communication & ethics
- Build trust through compliance & values

Singularity, AGI, Homanoid, Artificial Human/Living Being/Bio Material?



Emotional Intelligence?
Self-Awareness?
Common Sense?
Ethics and Society?



AI + Synthetic Biology

