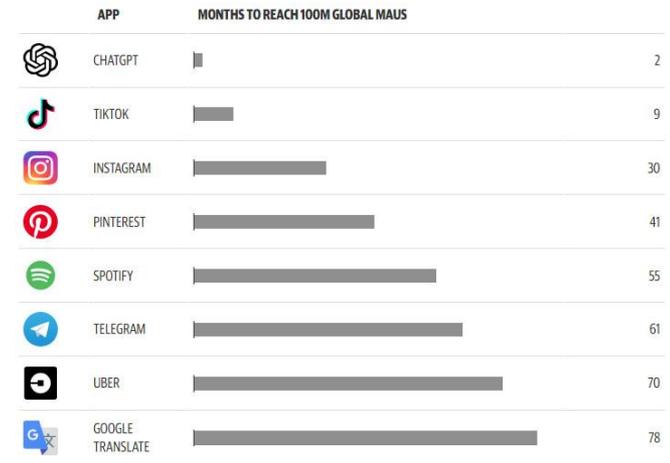


HUMAN-AI SYMBIOSIS ACADEMY

All these happened in 2023 March

- ChatGPT reached 100M monthly active users in 2 months
- GPT-4 shows sparks of Artificial General Intelligence (AGI)
 - GPT-4 can use tools without special training or even demonstration
 - Solve hard mathematical problems
 - Write software code
 - Recognize the “Theory of Mind”
- Microsoft invested \$10 billion in OpenAI
 - Introduced GPT in Bing Chat
 - MS Office and Cybersecurity Copilot
- Google released Bard
- Meta introduced LLaMa
- Combinations of AI models show superior skills
 - HuggingGPT, AutoGPT, reflexion
 - Alpaca 7B

HOW LONG IT TOOK TOP APPS TO HIT 100M MONTHLY USERS



- Weekly scientific breakthroughs
- Number of AI startups exploded
- NVIDIA introduced its H100 chips
 - 4X faster training
 - 30X speed up of LLMs
- Intel introduced Meteor Lake CPUs
 - AI accelerator and Vision Processing Unit
- Inflection AI
 - Chatbot PI
 - Raised \$1.3 Billion
- Elon Musk
 - Established X.AI
 - Announced the launch of Tesla DOJO
 - Neuralink executed its first human trial

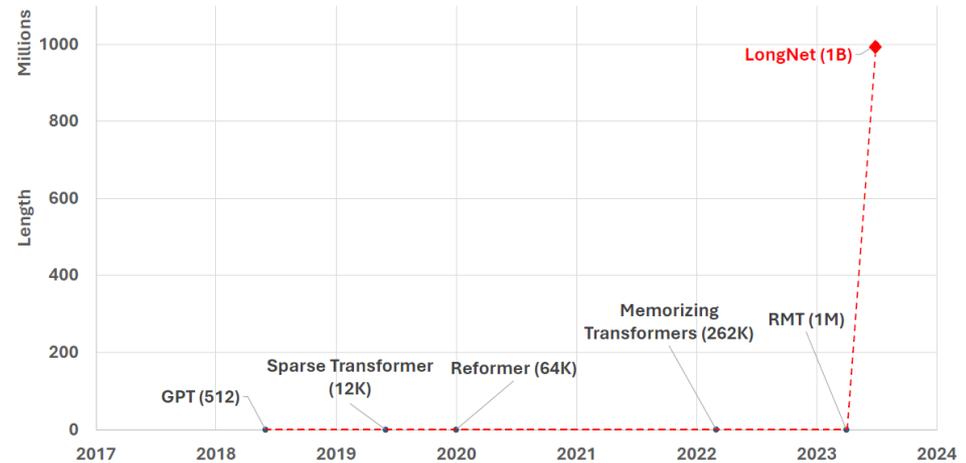


Figure 1: Trend of Transformer sequence lengths over time.

How many neurons do different species have?



28 billion



33,4 billion



86 billion

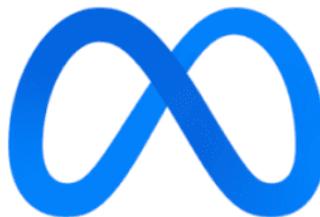
100-150 trillion synapses

How many parameters do different models have?



GPT-3

175 billion



LLaMA

7, 13, 70 billion



GPT-4

1.76 trillion

How many parameters do different models have?



175 billion

100%

LLaMA

7, 13, 70 billion



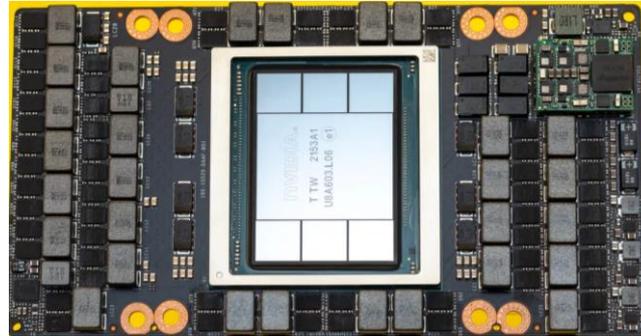
1.76 trillion

How many cores do different AI processors have?



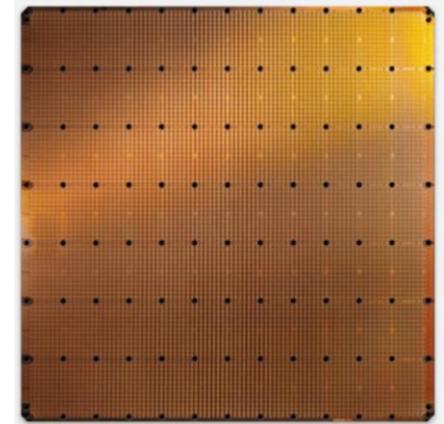
NVIDIA A100

6,912 cores

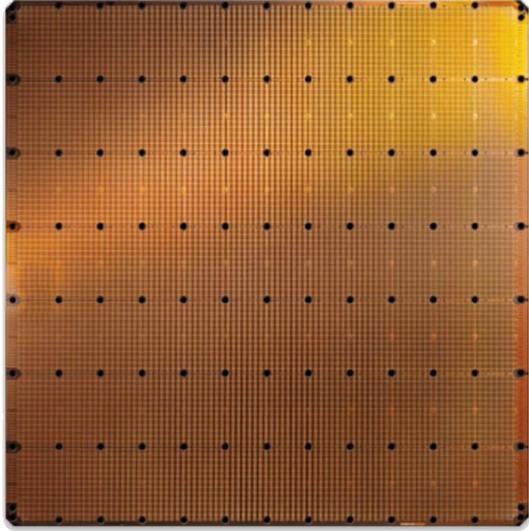


NVIDIA H100

14,592 cores



850,000 cores



Cerebras WSE-2
46,225mm² Silicon
2.6 Trillion transistors



Largest GPU
826mm² Silicon
54.2 Billion transistors

The Wafer-Scale Advantage

The Wafer-Scale Engine delivers unparalleled performance with no trade-offs

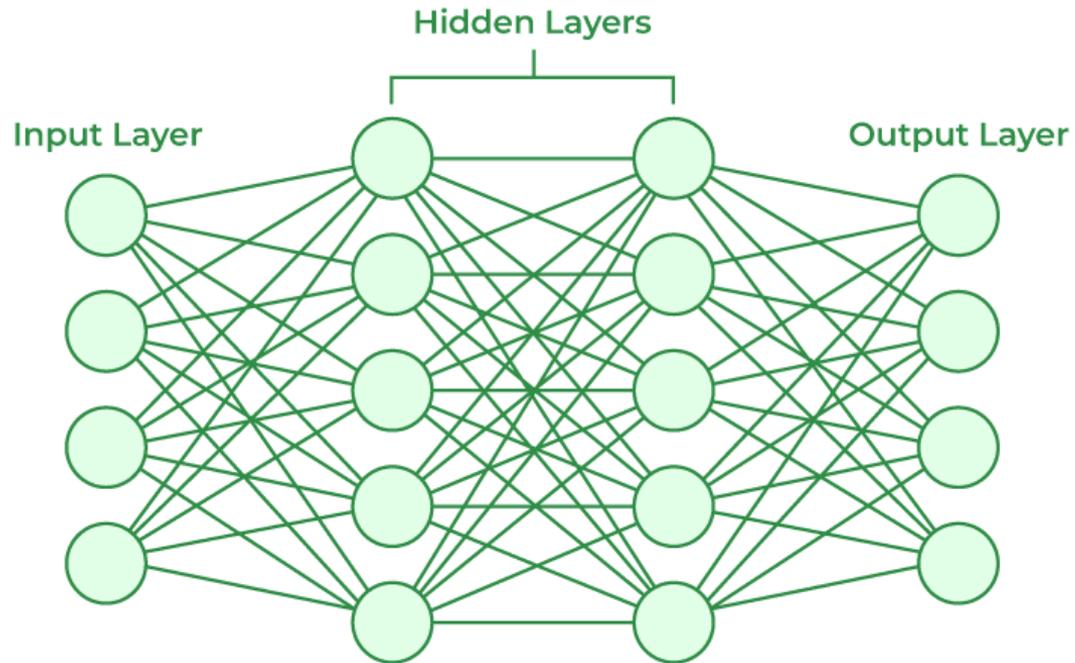
	WSE-2	A100	Cerebras Advantage
Chip Size	46,225 mm ²	826 mm ²	56 X
Cores	850,000	6912 + 432	123X
On-chip memory	40 Gigabytes	40 Megabytes	1,000 X
Memory bandwidth	20 Petabytes/sec	1.6 Terabytes/sec	12,733 X
Fabric bandwidth	220 Petabits/sec	4.8 Terabits/sec	45,833 X

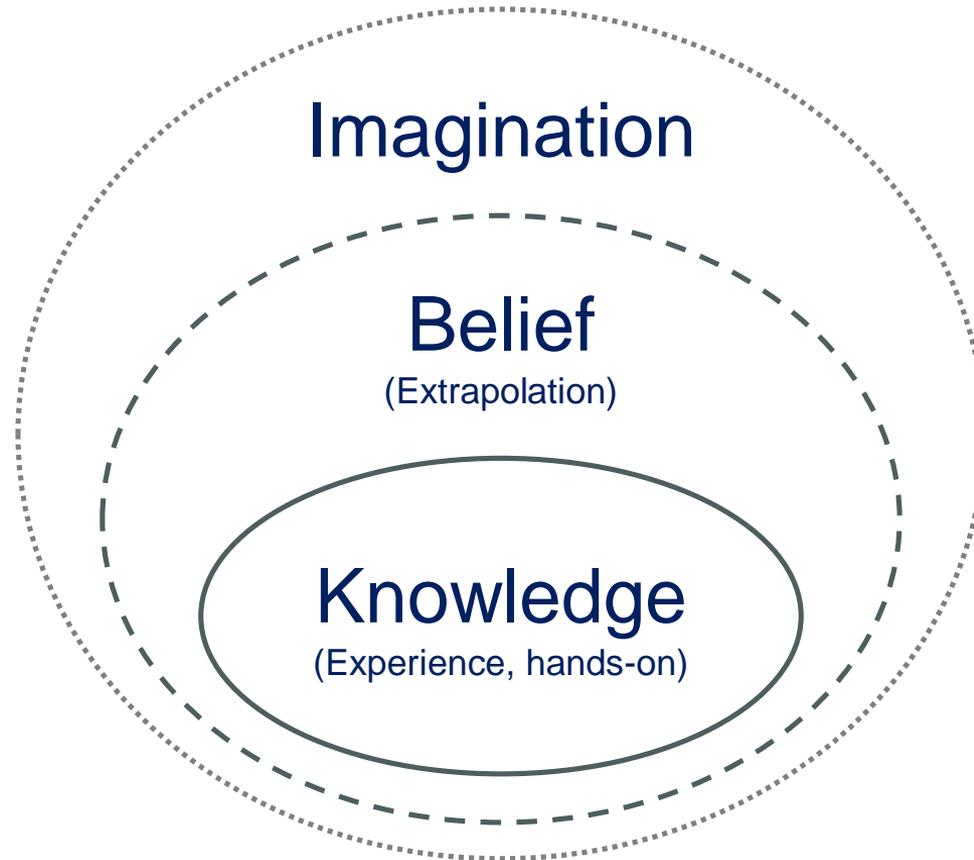
- At personal level
 - *"AI will not take your job, but people who know how to use it will."*
 - White collar jobs are the most effected (in the first wave)

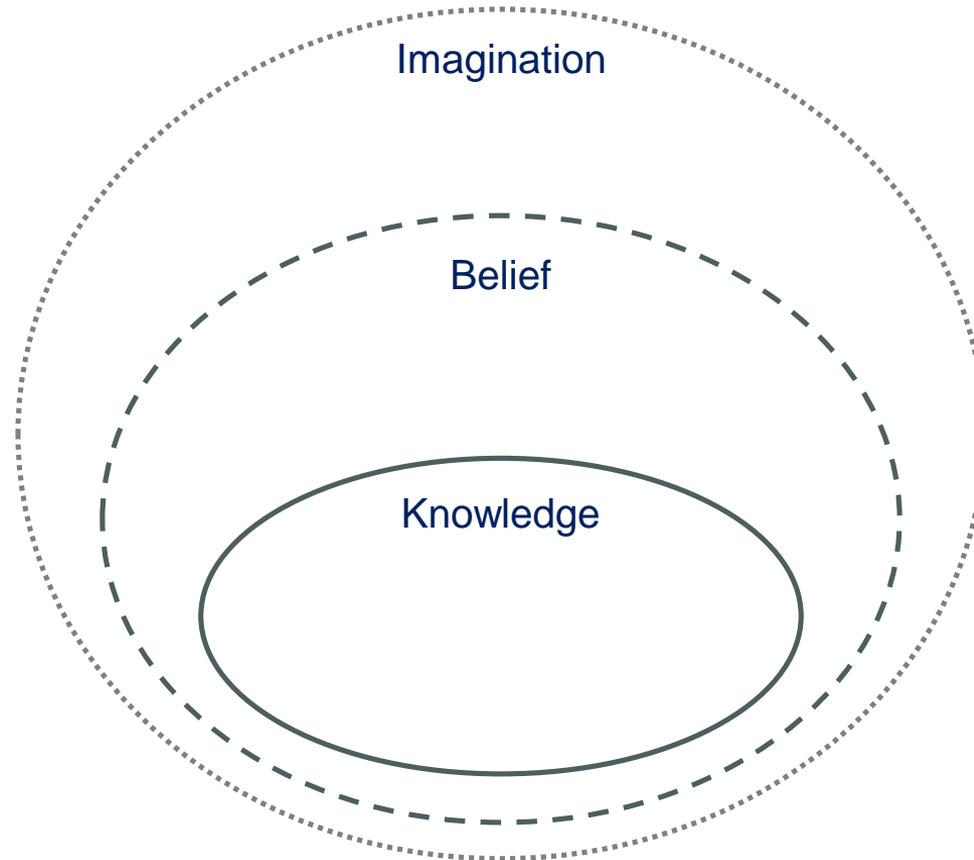
- At organizational level
 - **Hard AI Strategy** decisions:
 - What to share with AI, what to protect from it, and how to do that
 - What to insource and what to outsource
 - How to handle dependency from AI's availability
 - Restructuring, lay-offs ???
 - Handling Fear Uncertainty and Doubt (FUD) among employees
 - **AI Transformation** of whole organizations

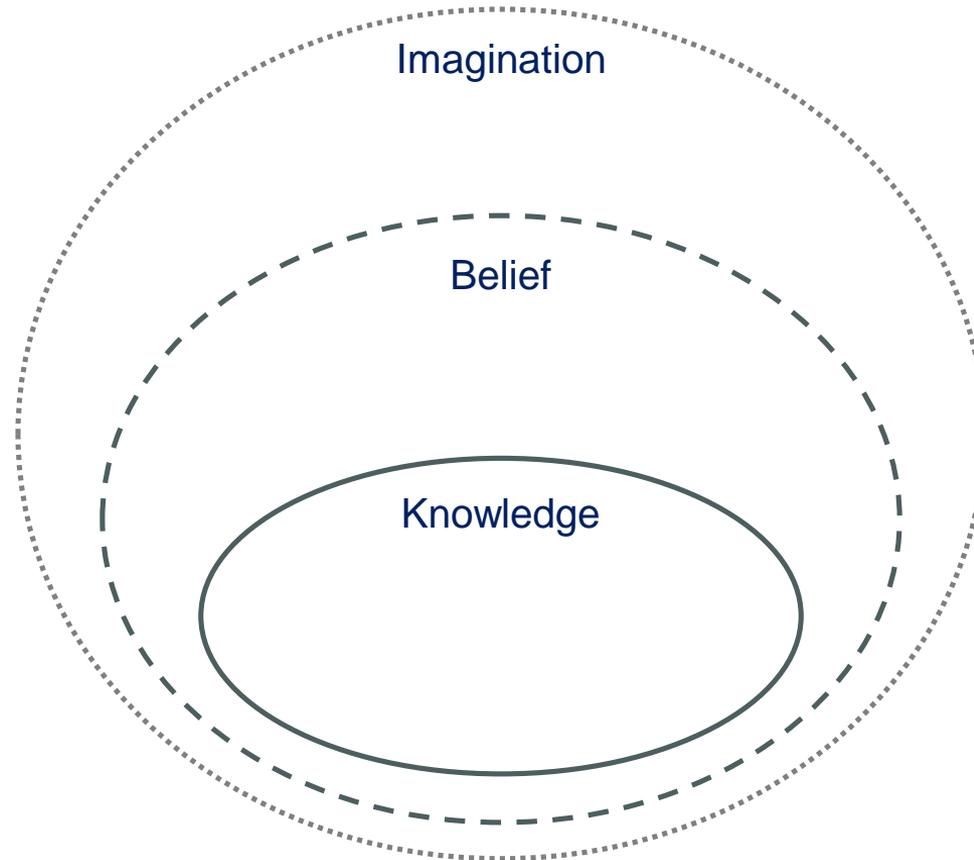
- At economics and country level
 - Reaction of markets, investors and banks
 - Dependency from US based tech companies
 - Society level tensions

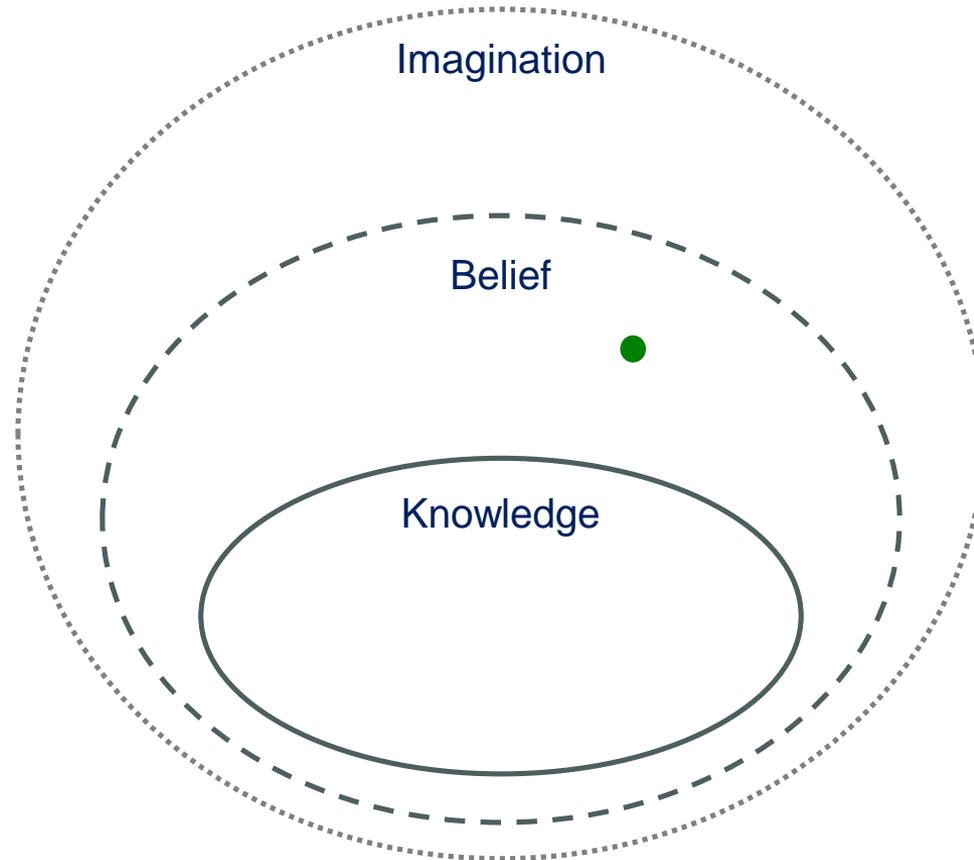
- At humanity level
 - Will all of us be replaced?
 - Humanity is just the bootloader of AI?
 - How will we survive?

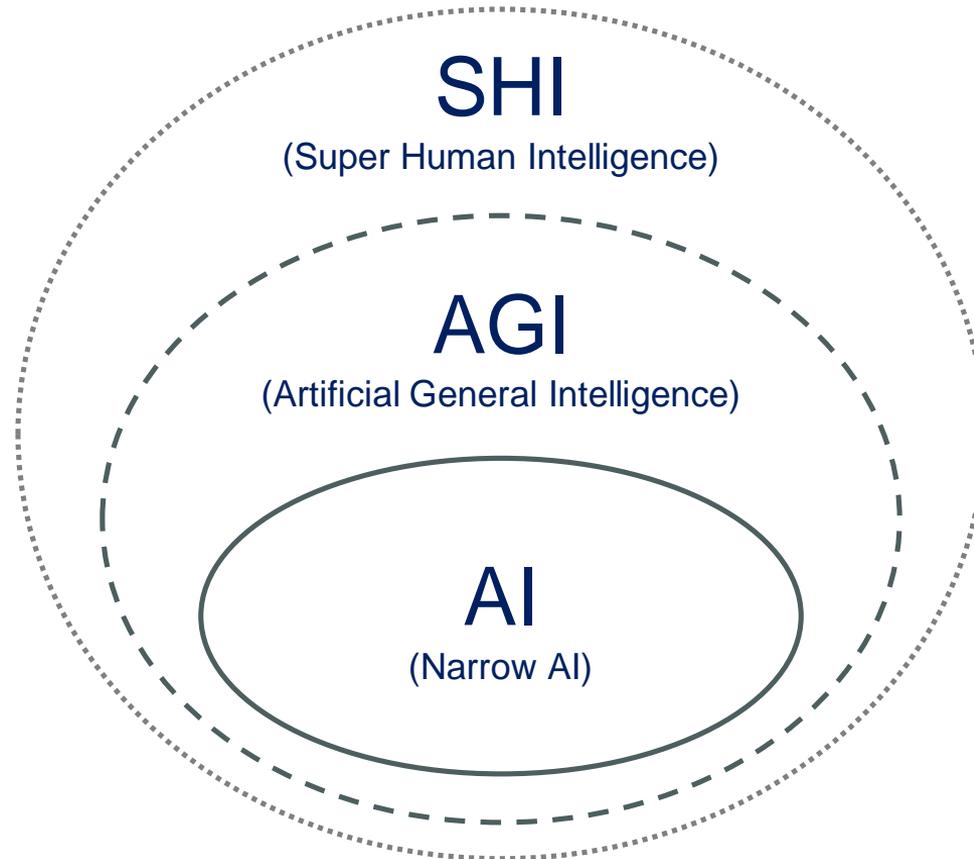


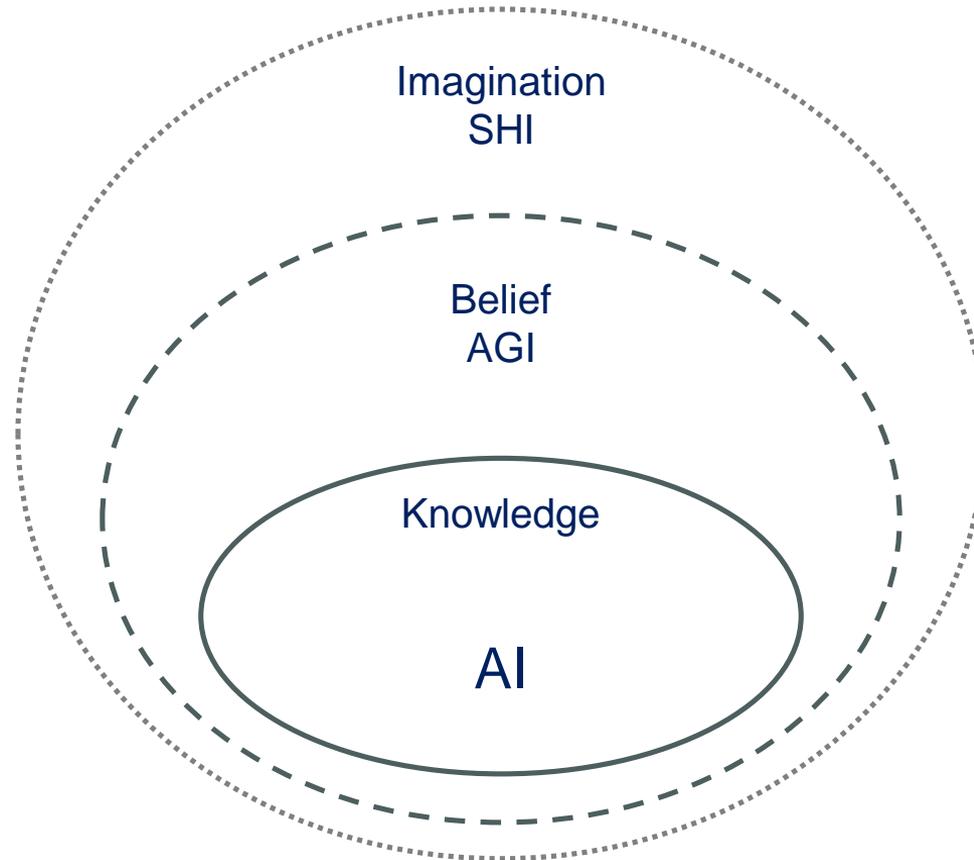












- First wave:
 - Immaterialized AI
 - Chatbots
 - Online services
 - End of home office jobs
- Second wave:
 - Humanoid robots
 - Non-humanoid robots
- Third wave:
 - Brain-Computer Interfaces
 - Neuralink

1. Physical boundaries
 - European Union
 - Hungary
 - Company
 - Personal information
2. Legal system
 - Laws and law enforcement
3. Training and religion
 - Alignment problem
4. Financial system
 - Independent currency for AI entities
 - Non-convertible with human currency



*Culture Building Company-wide
AI Transformation Program*

Thank you!

Zoltán Hornák

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