

Are You Ready for AgenticOps

Computers as Coworkers

Giuseppe Cinque
Principal Architect, Learn With Cisco



Webex App

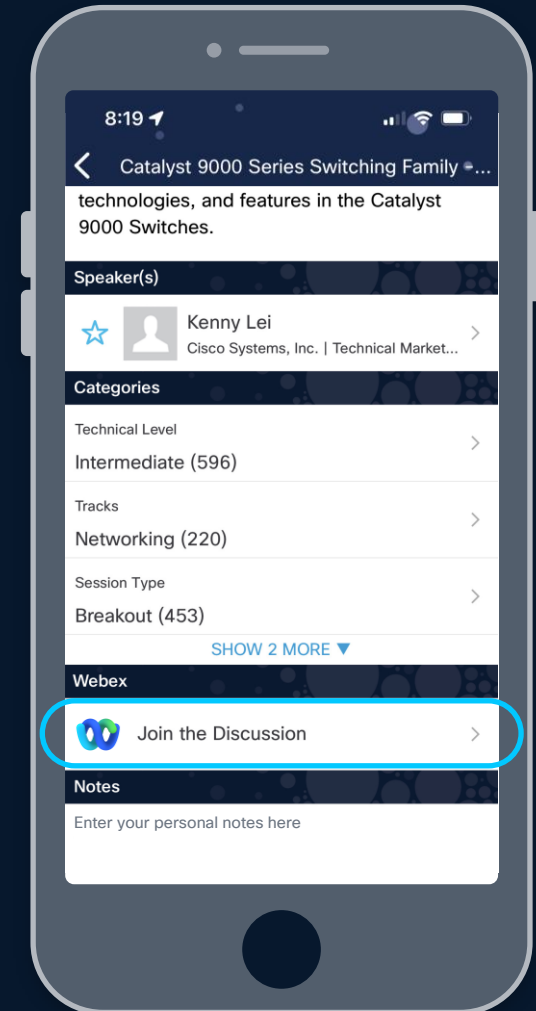
Questions?

Use Webex app to chat with the speaker after the session

How

- 1 Find this session in the Cisco Events app
- 2 Click “Join the Discussion”
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- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until February 27, 2026.



... a bit (1.585) about me...



Education



Research

Agenda

- 01 AI and the Workforce
- 02 Insights the Data
- 03 Sparks of new Way of Working
- 04 What's Next
- 05 How to prepare
- 06 Conclusion

How is AI Transforming The “Digital Workforce” (ICT) ?

The Washington Post | LIVE

Future of Work

The Impact of AI

Tuesday, July 11 at 2:00 p.m. ET / 7:00 p.m. BST



Alondra Nelson
Professor, School of Social
Science, Institute for Advanced
Study and Senior Fellow, Center
for American Progress



Sal Khan
Founder & CEO
Khan Academy



Michael H.
President, W
Skills, Pea

BREAKING NEWS

Will AI chatbots replace human jobs in future? This is what ChatGPT said

We asked ChatGPT, developed by OpenAI, if AI chatbots can really replace human jobs, and it gave a very s, nor did it deny it.



LIVE

EMPLOYMENT EVOLUTION

ARTIFICIAL INTELLIGENCE IS TAKING OVER THE WORKFORCE

MORNING
in
AMERICA

O MAYOR, BRANDON JOHNSON TO FACE PAUL VALLAS IN RUNOFF

NN LATEST HEADLINES

NEWSNATION

8:49 ET

Lessons from Another Sector

*In 2016 Geoffrey Hinton said:
“People should stop training
radiologists now, it’s just completely
obvious within 5 years deep learning
is going to do better than
radiologists.”*

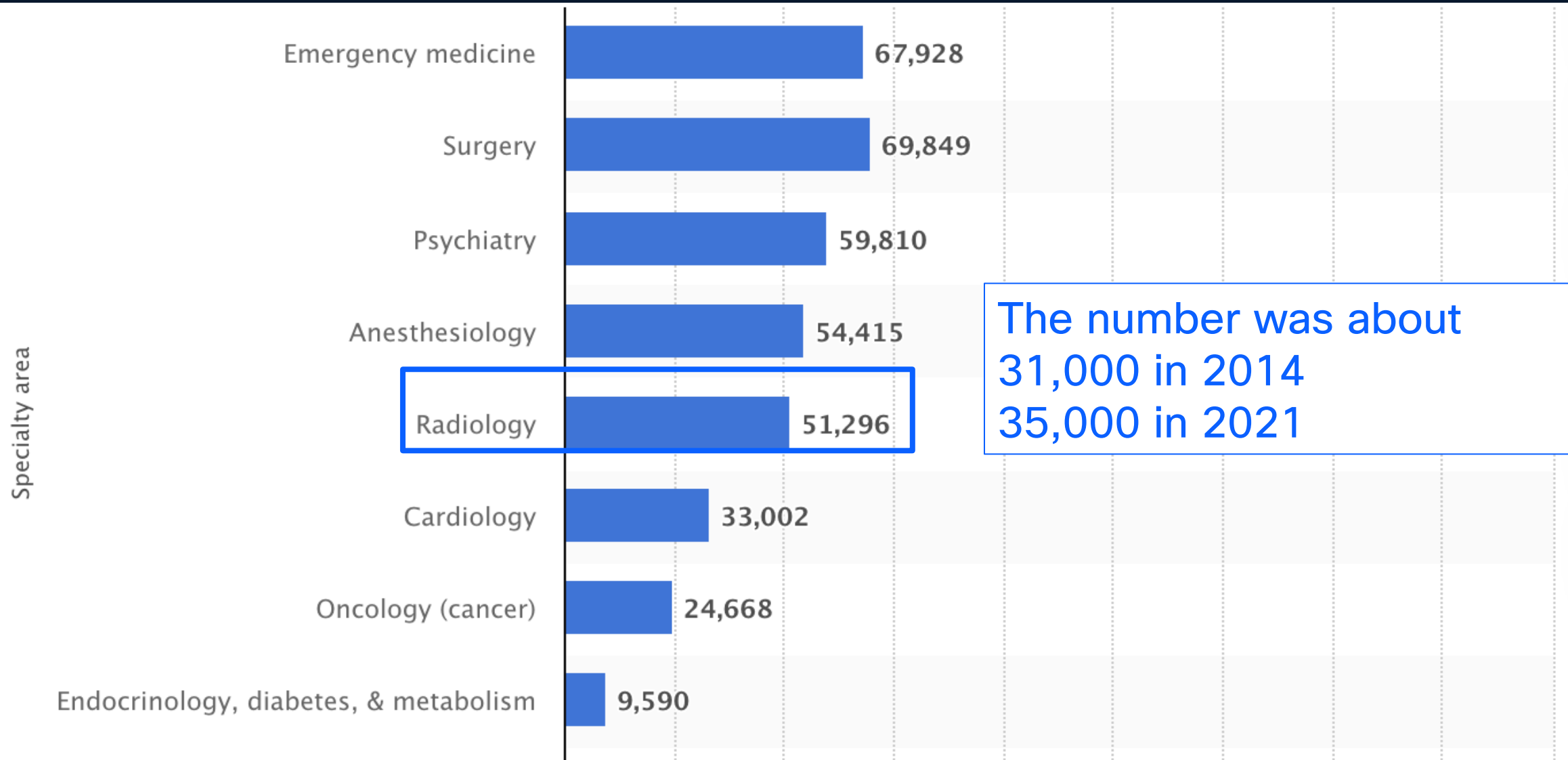


Geoffrey Hinton
Nobel Laureate 2024
Turing Award 2016



How has changed the Radiologist Workforce?

Number of active specialty physicians in the U.S. in 2025



Source: Statista.com

Members of the Cisco-led AI Workforce Consortium

MEMBERS

accenture



cornerstone

eightfold.ai

Google



indeed

intel

Microsoft



Mission: Prepare today's and tomorrow's workforce with actionable insights and scalable frameworks to leverage the transformational opportunity of AI on ICT jobs

ADVISORS

DIGITALEUROPE

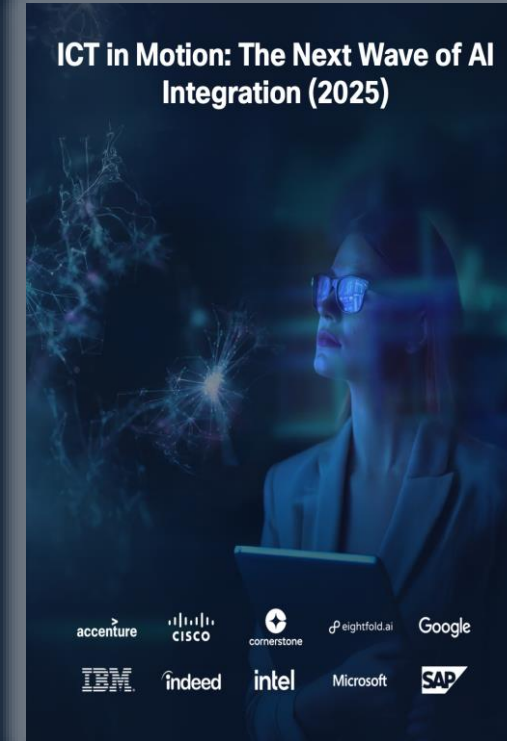
European Vocational
Training Association

SMEunited

07/2024:
Predictive Model



09/2025:
Job Market Data



The future is already here – it's just not evenly distributed.

William Gibson

Insights from Millions of Job Posts Across the G7

50 Job Roles

8 Job Families ICT (40 roles)

- Architecture and Platforms
- AI & Data Science
- Business and Management
- Customers and Supports
- Cybersecurity
- Design and User Experience
- Infrastructure and Operation
- Software Engineering

Specialized Supporting Roles (10 roles)



<https://www.cisco.com/site/m/ai-workforce-consortium/index.html>



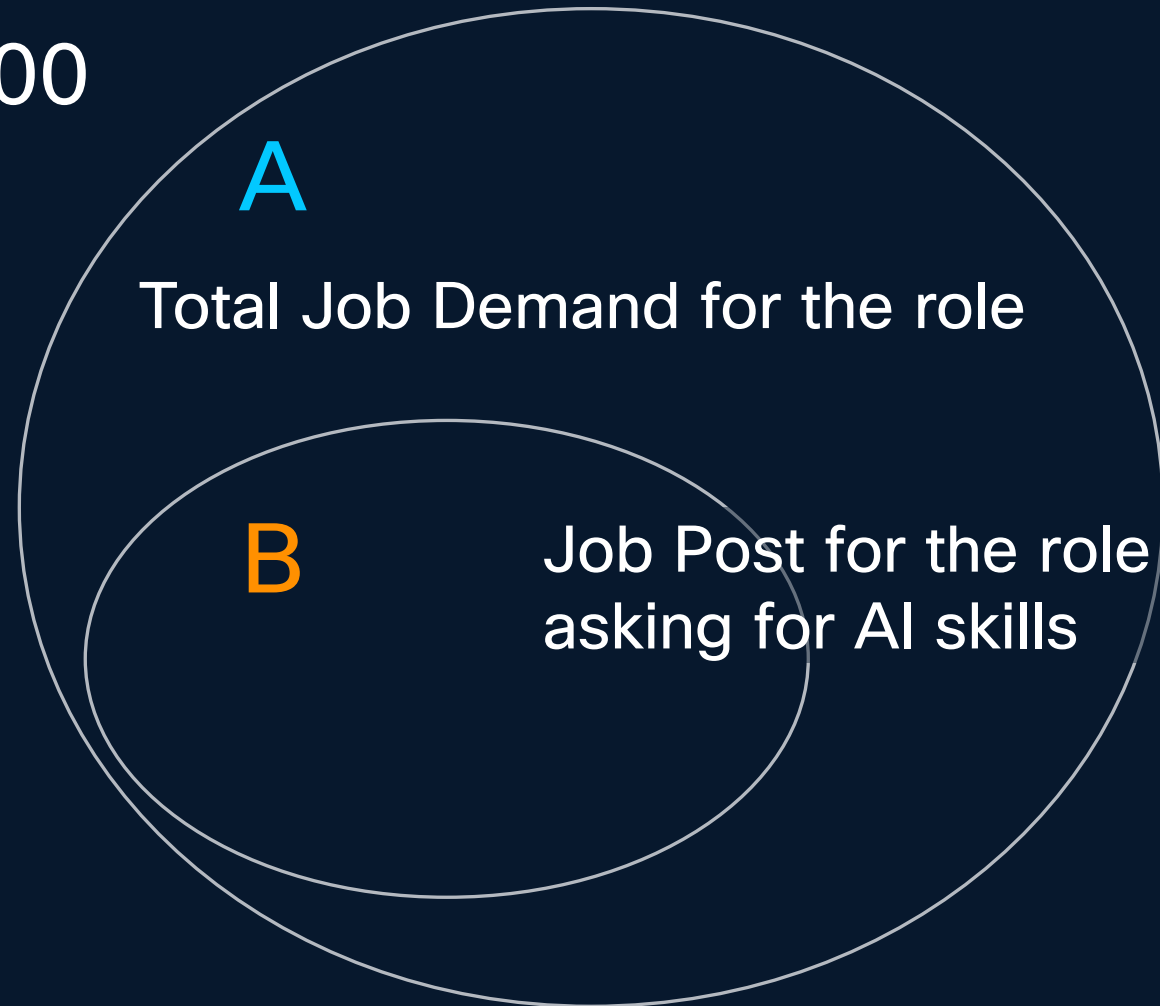
Inside the Data: What Millions of Jobs Reveal

AI Skill Integration in ICT Roles

$$\text{AI Integration(\%)} = \text{B/A} * 100$$

Time Frame: July 2024 – June 2025

Geography: G7 Countries.



78% of the analyzed job role require AI Skills

No.	Job Family	Job Role	AI Skills Integration Level
1	Architecture and Platform	Platform Engineer	Significant
		Site Reliability Engineering	Initial
		Software Architect	Significant
2	Artificial Intelligence and Data Science	AI/ML Engineer	Core
		AI/ML Researcher	Core
		Business Intelligence Analyst	Initial
		Data Analyst	Initial
		Data Engineer	Significant
		Data Scientist	Core
3	Business and Management	NLP Engineer	Core
		AI Business Consultant	Core
		AI Risk and Governance Specialist	Core
		IT Manager	Immaterial
4	Customer and Support	Technical Product Manager	Initial
		Consulting Engineer	Initial
		Solutions Engineer	Initial
		Technical Solutions Specialist/Engineer	Initial

No.	Job Family	Job Role	AI Skills Integration Level
5	Cybersecurity	Cyber Threat Intelligence Consultant	Significant
		Cybersecurity Analyst	Initial
		Cybersecurity Engineer	Initial
		Ethical Hacker	Immaterial
		Incident Response Consultant	Immaterial
6	Design and User Experience	Security Architect	Initial
		UX Designer	Initial
		UX Engineer	Initial
7	Infrastructure and Operations	AI Infrastructure Engineer	Core
		Automation Engineer	Initial
		Cloud Engineer	Initial
		DevOps Engineer	Initial
		IT Analyst	Immaterial
		IT Support Technician	Immaterial
		Network Architect	Initial
		Network Engineer	Immaterial
		System Administrator	Immaterial
8	Software Engineering	Embedded Engineer	Initial
		Full-Stack Developer	Initial
		Principal Software Engineer	Significant
		Senior Software Engineer	Significant
		Software Developer	Initial
		Software Engineer	Initial

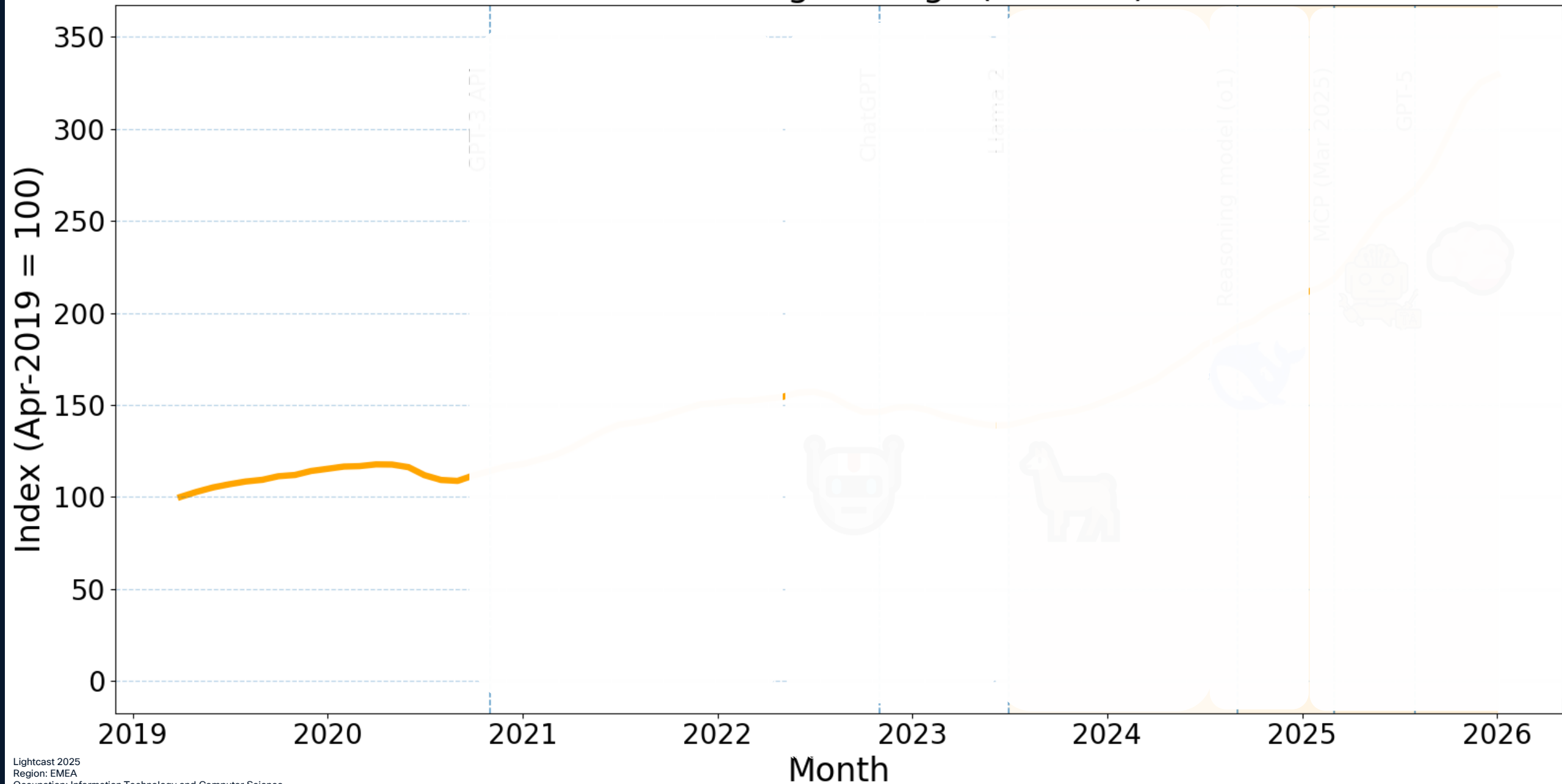
Legenda

Immaterial	$x \leq 10$	Established	$50 < x \leq 70$
Initial	$10 < x \leq 25$	Core	$70 < x \leq 100$
Significant	$25 < x \leq 50$		

Percentage of the Job Role analyzed that show an Initial or higher (>10%) prevalence of AI skills in the job posts.

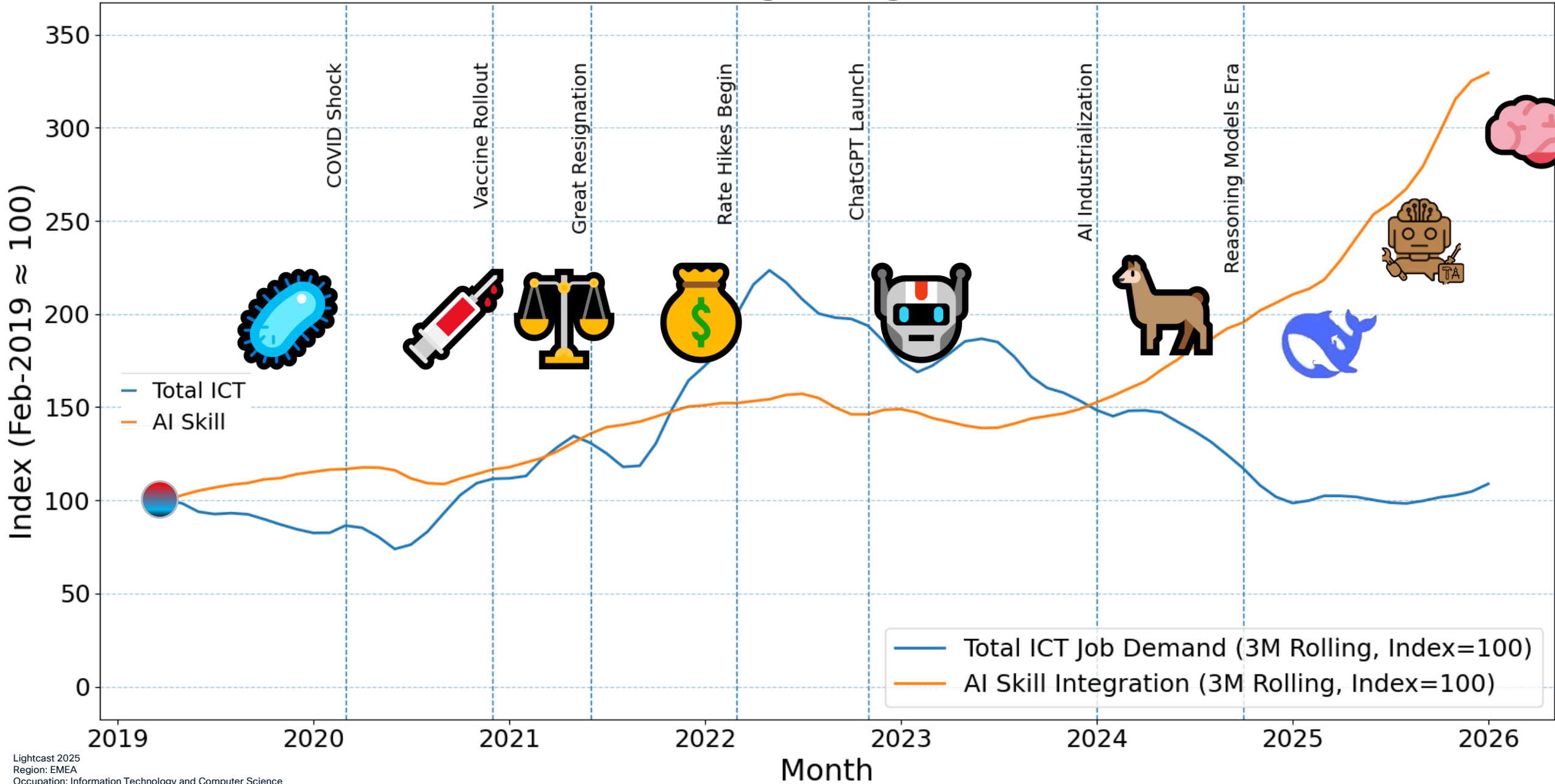


AI Skill Integration in EMEA ICT Job Demand 3-Month Rolling Average (Indexed)



EMEA ICT Job Demand vs AI Skill Integration

3-Month Rolling Average, Normalized



Demand and Growth Trends per Country (G7)



France

Most In-Demand ICT Roles



1. Data Scientist
2. AI/ML Engineer
3. Software Architect
4. Cloud Engineer
5. Cybersecurity Engineer

Fastest-Growing ICT Roles

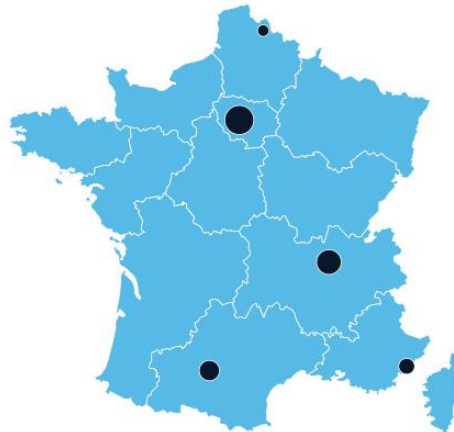


1. AI Risk & Governance Specialist
2. NLP Engineer
3. AI Infrastructure Engineer
4. AI Business Consultant
5. Data Science

Region and Tech Hubs



- **Paris** - AI ecosystem and Station F
- **Nice/Sophia Antipolis** - Tech park and research
- **Lyon** - Software and digital services
- **Lille** - Cross-border tech hub
- **Toulouse** - Aerospace and tech



Italy

Most In-Demand ICT Roles



1. Software Developer
2. Full-Stack Developer
3. Data Analyst
4. Cloud Engineer
5. IT Manager

Fastest-Growing ICT Roles



1. AI Risk & Governance Specialist
2. NLP Engineer
3. AI Business Consultant
4. Cloud Engineer
5. Automation Engineer

Region and Tech Hubs



- **Milan** - Fashion tech and fintech
- **Rome** - Government tech and startups
- **Turin** - Industrial tech and automotive
- **Bologna** - University tech hub
- **Naples** - Emerging tech scene



Demand and Growth Trends per Country (G7)



United Kingdom

Most In-Demand ICT Roles



1. Data Science
2. AI/ML Engineer
3. Cybersecurity Engineer
4. Cloud Engineer
5. Software Architect

Fastest-Growing ICT Roles



1. AI Risk & Governance Specialist
2. NLP Engineer
3. AI Infrastructure Engineer
4. Cyber Threat Intelligence Consultant
5. AI Business Consultant

Region and Tech Hubs



- **London** - Europe's leading tech hub (68% of UK tech jobs)
- **Manchester** - Growing digital hub
- **Edinburgh** - Fintech and data science center
- **Birmingham** - Emerging tech cluster
- **Cambridge** - AI research and biotech



Germany

Most In-Demand ICT Roles



1. Software Engineer
2. AI/ML Engineer
3. Embedded Engineer
4. Cloud Engineer
5. Data Engineer

Fastest-Growing ICT Roles

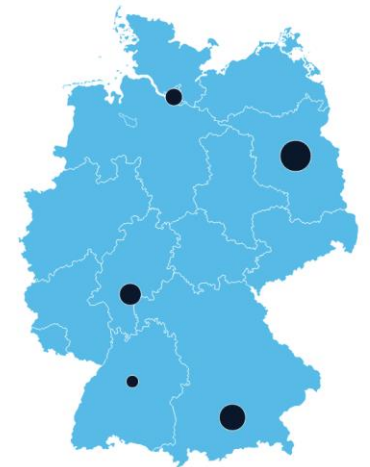


1. AI Risk & Governance Specialist
2. NLP Engineer
3. AI Infrastructure Engineer
4. Embedded Engineer
5. Automation Engineer

Region and Tech Hubs



- **Berlin** - Startup capital of Germany
- **Munich** - Industrial tech and automotive AI
- **Frankfurt** - Fintech hub
- **Hamburg** - Logistics and e-commerce tech
- **Stuttgart** - Automotive tech center



Demand and Growth Trends in Skills per Job Family

Infrastructure and Operations

Most In-Demand Skills

- AWS/Azure/GCP
- Kubernetes
- Infrastructure as Code (IaC)
- Docker
- MLOps
- Automation/Ansible
- Monitoring Tools
- GPU/TPU Management
- Terraform
- Cost Optimization

Fastest Emerging Skills

- LLMOps & Model Serving
- Cost-Optimized Inference
- Vector Database Management
- GPU Cluster Orchestration
- Serverless AI Modal
- Real-Time AI Pipeline Design
- Edge AI Deployment
- AI Observability Platforms
- Model Caching & CDN Strategies
- A/B Testing for AI Features

Demand and Growth Trends in Skills per Job Family

Cybersecurity

Most In-Demand Skills

- Threat Analysis
- Security Tools (SIEM)
- Zero Trust Architecture
- AI Security
- Compliance (GDPR/SOC2)
- Cloud Security
- Incident Response
- ML for Threat Detection
- Penetration Testing
- Security Orchestration

Fastest Emerging Skills

- LLM Security & Jailbreak Defense
- AI Supply Chain Security
- Prompt Injection Prevention
- AI-Generated Content Detection
- Adversarial Testing for LLMs
- Model Backdoor Detection
- Privacy-Preserving ML (PPML)
- AI Watermarking & Attribution
- Homomorphic Encryption for AI
- Secure Multi-Party AI Computation

View for individual Job Role

AI Infrastructure Engineer

Job Description: Builds and maintains infrastructure for AI/ML workloads and focuses on scalability and performance of AI systems

AI Cluster / Persona: AI Builder
AI Skills Integration: Core

Countries with Highest Demand:



Top 10 In-Demand Skills: Distributed Training, MLOps, GPU, Kubernetes, Cloud, Performance Optimization, Monitoring, Cost Management/Optimizations, Documentation, Troubleshooting

Top 10 Emerging Technical Skills: Inference Optimization, Model Serving at Scale, Distributed LLM Training, Edge AI Infrastructure, Serverless AI, AI Cost Optimization, Model Quantization, Hardware Acceleration, Multi-Cloud AI, Real-time AI Systems

Automation Engineer

Job Description: Develops automation solutions to improve efficiency and reduce manual tasks; works across infrastructure, testing, and deployment automation

AI Cluster / Persona: AI Builder
AI Skills Integration: Initial

Countries with Highest Demand:



Top 10 In-Demand Skills: RPA, Python, Ansible, Terraform, CI/CD, Scripting, Testing Automation, Process Optimization, Documentation, Problem Solving

Top 10 Emerging Technical Skills: Intelligent Process Automation, AI-Powered RPA, Self-Improving Automation, Cognitive Automation, Autonomous Testing, Natural Language Automation, Vision-Based Automation, Predictive Automation, Multi-Agent Automation, Adaptive Workflows

IT Support Technician

Job Description: Provides technical support for hardware and software issues, first line of defense for IT problems

AI Cluster / Persona: AI User
AI Skills Integration: Immaterial

Countries with Highest Demand:



Top 10 In-Demand Skills: Hardware Knowledge, Software Installation, Networking, Help Desk & Remote Tools, OS Troubleshooting, Documentation, Communication, Customer Service, Problem Solving, Patience.

Top 10 Emerging Technical Skills: AI Diagnostics, Automated Troubleshooting, Predictive Maintenance, Remote Support AI, Self-Healing Systems, Knowledge Automation, Ticket Intelligence, Asset Management AI, User Behavior Analytics, Support Analytics

IT Analyst

Job Description: Analyzes business requirements and translates them to IT solutions, bridge between business and technology

AI Cluster / Persona: AI Enabler
AI Skills Integration: Immaterial

Countries with Highest Demand:



Top 10 In-Demand Skills: Requirements Gathering, Documentation, Data Analysis, Testing Coordination, Business Analysis, Communication, Problem Solving, Process Mapping, Stakeholder Management, Project Support

Top 10 Emerging Technical Skills: AI Requirements Analysis, Process Mining AI, Predictive Analytics, Documentation AI, Stakeholder Analytics, Risk Analysis AI, Solution Recommendation, Impact Analysis AI, Test Planning AI, Change Analytics

Cloud Engineer

Job Description: Manages cloud infrastructure, implements cloud solutions, and ensures optimal performance and security of cloud environments

AI Cluster / Persona: AI Enabler
AI Skills Integration: Initial

Countries with Highest Demand:



Top 10 In-Demand Skills: AWS/Azure/GCP, IaC, Cloud Security, Cost Optimization, Networking, Automation, Monitoring, Documentation, Troubleshooting, Compliance

Top 10 Emerging Technical Skills: Cloud AI Platforms, Serverless AI Inference, GPU/TPU Management, AI Workload Optimization, Multi-Region AI Deployment, Cloud AI Security, Cost-Optimized AI Infrastructure, Real-time AI Streaming, Hybrid Cloud AI, AI Observability

DevOps Engineer

Job Description: Bridges development and operations, focusing on automation, CI/CD, and infrastructure as code; enables faster and more reliable deployments

AI Cluster / Persona: AI Enabler
AI Skills Integration: Initial

Countries with Highest Demand:



Top 10 In-Demand Skills: CI/CD, Docker, Kubernetes, Automation, Infrastructure as Code, Cloud Platforms, Monitoring Tools, Scripting, Git, Problem Solving

Top 10 Emerging Technical Skills: AIOps & Predictive Analytics, MLOps Pipeline Automation, AI-Driven Deployment Strategies, Self-Optimizing Infrastructure, Intelligent Resource Allocation, AI Security Scanning, Automated Performance Tuning, Predictive Scaling, AI-Powered Testing, ChatOps with AI

Network Architect

Job Description: Designs enterprise network architectures, ensuring scalability, security, and performance; creates network strategies and standards

AI Cluster / Persona: AI Enabler
AI Skills Integration: Initial

Countries with Highest Demand:



Top 10 In-Demand Skills: Enterprise Architecture, SDN, Network Security, Network Strategy, Documentation, Cost Optimization, Performance Optimization, Compliance, Leadership, Vendor Management

Top 10 Emerging Technical Skills: AI-Driven Network Design, Cognitive Networking, Intent-Based Architecture

Network Engineer

Job Description: Designs, implements, and maintains network infrastructure; ensures network security, performance, and reliability

AI Cluster / Persona: AI Enabler
AI Skills Integration: Immaterial

Countries with Highest Demand:



Top 10 In-Demand Skills: Network Automation, Routing/Switching, VPN/Security, Software Defined Networking, Troubleshooting, Firewalls, Load Balancing, Documentation, Network Monitoring, Network Protocols

Top 10 Emerging Technical Skills: AI Network Optimization, Predictive Network Analytics, Automated Threat Detection, SDN with AI, 5G Network AI, Intent-Based Networking, AI Traffic Analysis, Network Anomaly Detection, Self-Configuring Networks, AI-Driven QoS

AI Skill Dictionary

Click a category to explore its skills

AI

1. Fundamental AI Concepts



6. AI Safety, Ethics & Governance



7. AI-Enhanced Professional Skills



8. Emerging AI Applications



9. Key AI Platforms & Models (as of mid-2025)



10. Future Frontiers



2. Large Language Model (LLM) Technologies



3. Generative & Multimodal Systems

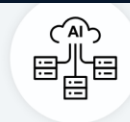


4. Advanced AI Architectures & Techniques

4. Advanced AI Architectures & Techniques



5. AI Infrastructure & Operations (LLMOps)



4. Advanced AI Architectures & Techniques

- [Agentic AI, Agents](#)
- [Constitutional AI & RLHF](#)
- [Direct Preference Optimization \(DPO\)](#)
- [Federated Learning](#)
- [Flash Attention & Optimization](#)
- [Knowledge Distillation](#)
- [Knowledge Graphs](#)
- [Mixture of Experts \(MoE\)](#)
- [Model Merging & Ensemble](#)
- [Parameter-Efficient Fine-Tuning \(PEFT\)](#)
- [Quantization \(GPTQ, AWQ, GGUF\)](#)
- [State Space Models \(Mamba\)](#)

[Back to Skill Categories](#)

Agentic AI, Agents

AI systems capable of autonomous decision-making and action. These systems, often called AI agents, proactively pursue goals with minimal human intervention, adapt to changing environments, and may use tools or interact with other systems to achieve objectives.

See also: [Tool Use & Function Calling](#), [Multi-Agent Systems](#)

Constitutional AI & RLHF

Guides models with principles (“constitution”) and uses human feedback (RLHF) to align model behavior with desired outcomes.

See also: [Direct Preference Optimization \(DPO\)](#), [AI Ethics](#), [AI Alignment](#)

Direct Preference Optimization (DPO)

A stable, efficient alternative to RLHF for aligning models to human preferences by directly optimizing on preferred

Federated Learning

A machine learning technique training algorithms across decentralized devices without exchanging data, preserving privacy.

See also: [Privacy-Preserving AI](#), [Knowledge Distillation](#), [Parameter-Efficient Fine-Tuning \(PEFT\)](#)

Flash Attention & Optimization

An optimized algorithm for Transformer attention, speeding up training and inference while reducing memory usage.

See also: [Transformer](#), [State Space Models \(Mamba\)](#), [Quantization \(GPTQ, AWQ, GGUF\)](#)

Knowledge Distillation

A training technique where a smaller “student” model learns to replicate a larger “teacher” model, transferring knowledge efficiently.

See also: [Quantization \(GPTQ, AWQ, GGUF\)](#), [Model Merging & Ensemble](#), [Parameter-Efficient Fine-Tuning \(PEFT\)](#)

Skills Stories, example of transformation

4.6 Skills Stories

How AI is Changing Tasks, Skills, and Careers through Personal Narratives

The advent of AI is reshaping job roles within the ICT sector, particularly by evolving the nature of tasks performed within existing roles and facilitating career transitions into adjacent, AI-focused positions, alongside other emerging pathways and possibilities. To illustrate this transformation clearly, we've created "skill stories" – fictional yet realistic narratives from the perspectives of professionals experiencing these shifts

firsthand. Each story highlights the specific changes in **tools**, **activities**, and **skills** required to succeed in roles that either integrate AI into existing tasks, as shown by Aisha, Maya and Liam, or transition fully into AI-focused positions, as illustrated by Priya, Emma, and Alex. These skill stories vividly exemplify how professionals can successfully adapt and thrive amidst the AI-driven evolution of the ICT landscape.



Aisha's Skill Story as Software Developer: How AI Rewrote My Job Description

My name is Aisha, and I'm a 25-year-old software developer. Just a few years ago, my job was simple: Translating a manager's request into clean, functional code. My world was Jira tickets, specific frameworks, and late-night debugging sessions. I was a builder, executing on a well-defined blueprint.

Then, AI arrived – not as a replacement, but as a powerful and unpredictable new tool. The change became real when I was asked to build an intelligent search for our e-commerce site. Instead of me writing complex search algorithms, my job was to direct a Large Language Model (LLM) to do it, either through prompt engineering or vibe coding that leverages AI to transform user's plain speech and words into executable code for software development.

Suddenly, my primary skill wasn't just coding; it was communication. I spent my days engineering, testing, and refining prompts to guide the AI. The core challenge shifted from "How do I build this?" to "How can I provide effective prompts and relevant context to AI and validate its outputs?"

I had to become a critic on prompt inputs and context and a safety inspector. My role was now to scrutinize the AI's input and output for security flaws, logical errors, and hidden biases. I was no longer just following instructions; I had to lead the technology, anticipating its mistakes and building safeguards around it.

Today, my core coding skills are more critical than ever, where I play the role of manager/leader of AI in leveraging them to manage and direct AI systems rather than just writing everything from scratch. I've become an architect and a strategist. AI didn't take my job; it transformed it into something bigger and more essential than I ever imagined. I'm more productive than ever before, no longer bogged down by repetitive coding tasks. Instead, I'm able to dedicate my time to value-added tasks – strategic thinking and complex problem solving. This shift has led directly to higher quality outputs, as the AI handles granular execution while I focus on the overarching vision and refinement, producing innovative solutions quicker.



Jordan's Skill Story: From Reactive to Proactive Threat Oversight: My Transformation as an AI-Powered Cybersecurity Analyst

Back in 2023, my role as a Cybersecurity Analyst revolved around constant manual effort. I reviewed endless alerts on our Security Information and Event Management (SIEM) platforms used for security monitoring and threat detection, combed through logs for anomalies, and applied static rules to flag suspicious activity. Fraud detection was reactive, and incident response meant following rigid playbooks while drafting lengthy reports. Most of my day was spent gathering evidence for audits and compliance teams, leaving little time for proactive threat hunting.

The shift began when our company introduced AI-augmented SIEM and Security Orchestration, Automation, and Response (SOAR) platforms. At first, I was skeptical, but I quickly realized I needed new skills to stay relevant. I learned Python to build automation scripts, mastered prompt design to guide AI agents in triaging incidents and studied AI

ethics and governance to ensure decisions were transparent and ethical. Over time, I started training AI models to detect financial fraud patterns and contextual nuances in financial workflows. It was a steep learning curve, but it shifted my focus from execution to strategy.

Today, I oversee AI-generated triage, validating critical alerts and refining detection logic. I run AI-driven attack simulations, orchestrate automated response workflows, and ensure every system aligns with compliance standards. My expertise now blends traditional cybersecurity knowledge with AI-driven threat hunting and governance. Instead of drowning in alerts, I spend my time shaping the defenses that prevent attacks before they happen. My expertise has expanded beyond traditional cybersecurity into AI oversight and strategic threat hunting.



Jordan in 2023

- **Alert Triage & Investigation:** Manually reviewed alerts from SIEM systems, checked logs for anomalies, and flagged suspicious activity
- **Fraud Detection Support:** Identified and escalated indicators of potential fraud using static rules and manual queries
- **Incident Response:** Drafted reports and responded to phishing, malware, and intrusion events with standardized playbooks
- **Compliance Documentation:** Generated reports for audits and coordinated with compliance teams on security events

Jordan Today

- **AI-Supported Threat Oversight:** Supervises AI-generated triage, validating critical alerts and ensuring contextual accuracy
- **AI Model Training:** Trains AI systems to recognize fraud patterns specific to financial workflows
- **Automated Response Orchestration:** Builds and tests automation scripts for incident response workflows and scenario simulations
- **Regulatory Alignment Auditing:** Ensures AI-driven processes meet audit, privacy, and compliance standards

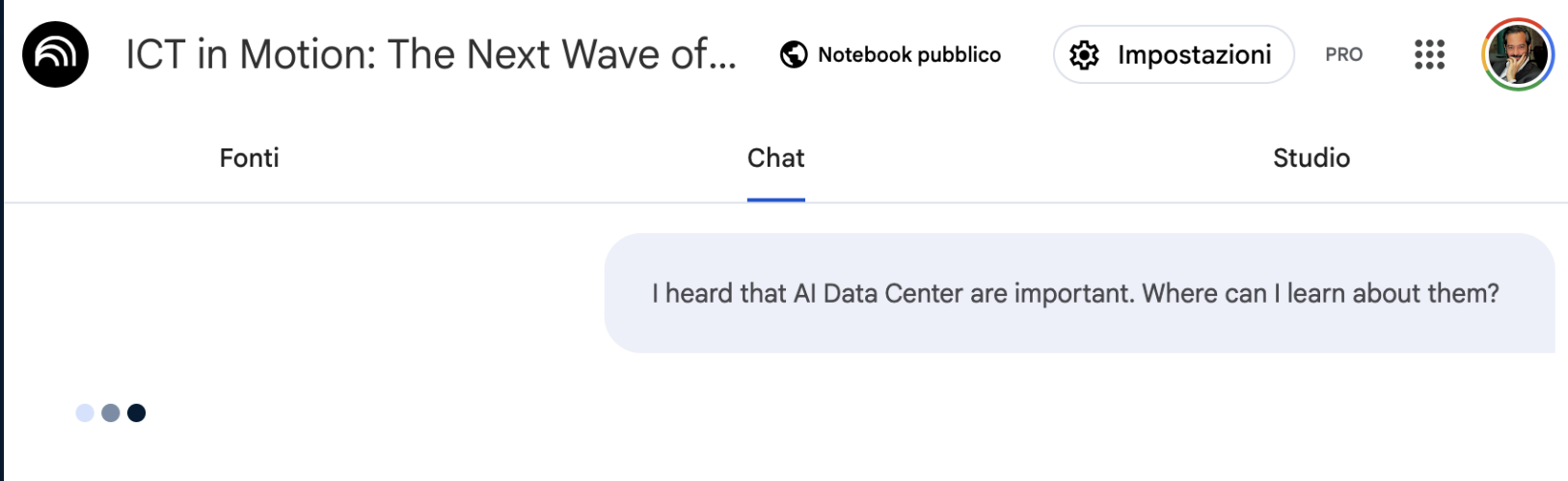
Using the Consortium's AI Assistant for your Questions

Leading technology and workforce development companies share how AI is reshaping the most in-demand ICT roles

Get the 2025 report (PDF)

Get insights with AI

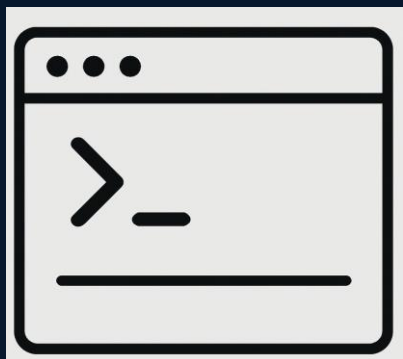
- What skills are needed of AI Data Center?
- What jobs are in demand in Germany?
- How can I upskill?



<https://notebooklm.google.com/notebook/cf75bb0d-e0ea-469e-8532-727e1de93688>

The Sparks for a New Way of Working

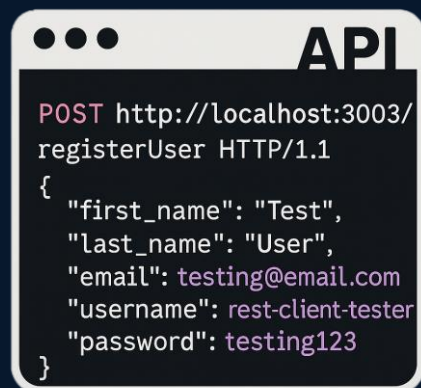
CLI



GUI



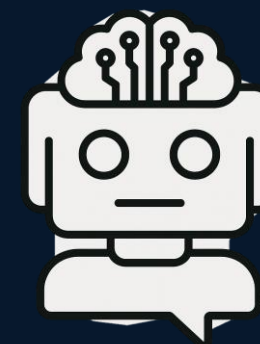
API



Natural Language Interfaces



Agents



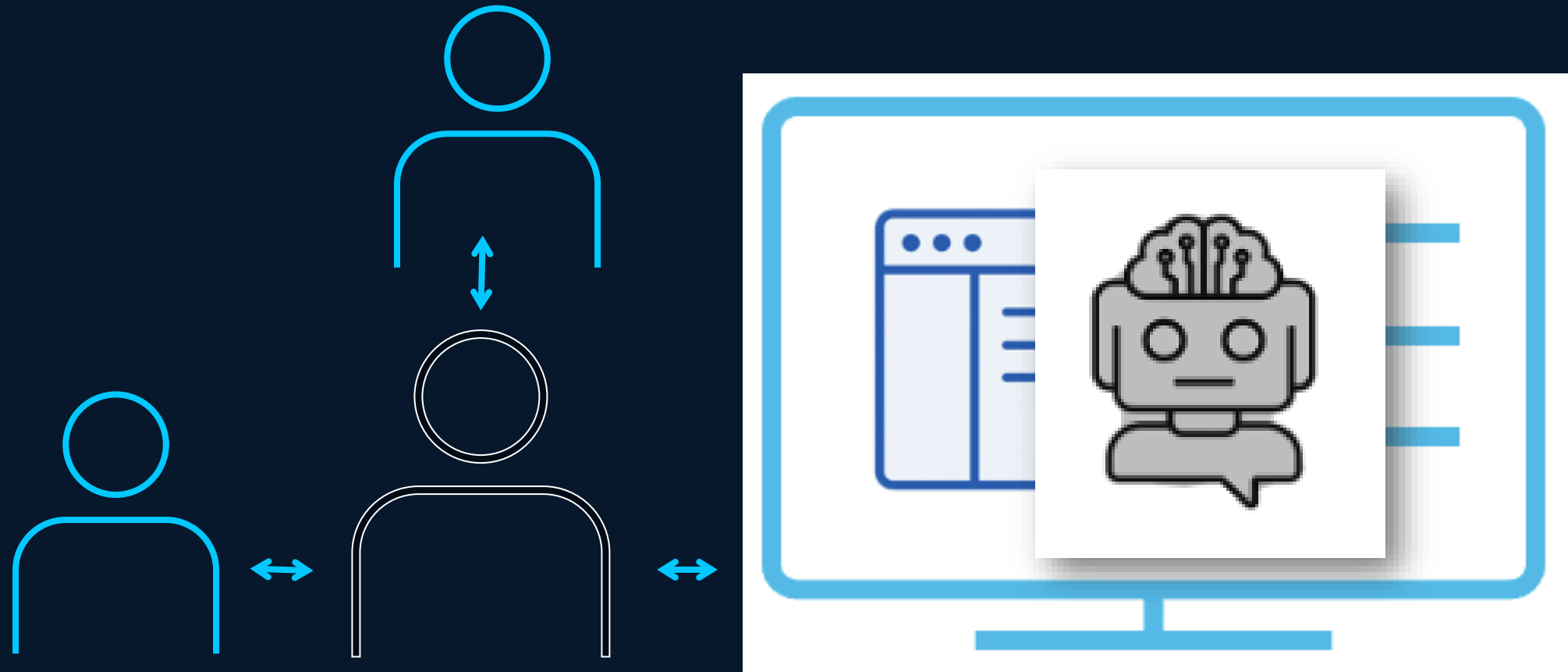
LLM Moving from the Front End to the Business Logic

Before 2023/4



Interacting with **people** and **tools**

Since 2024



Interacting with **people** and **tools** and **Assistants**

AI Assistants Integrated Across Cisco



Security

Firewall, Secure Access, XDR, Hypershield, Duo



Networking

Meraki, Catalyst Center, ISE, Catalyst SD-WAN



Observability

Splunk Enterprise Security, Splunk Observability, Splunk Enterprise

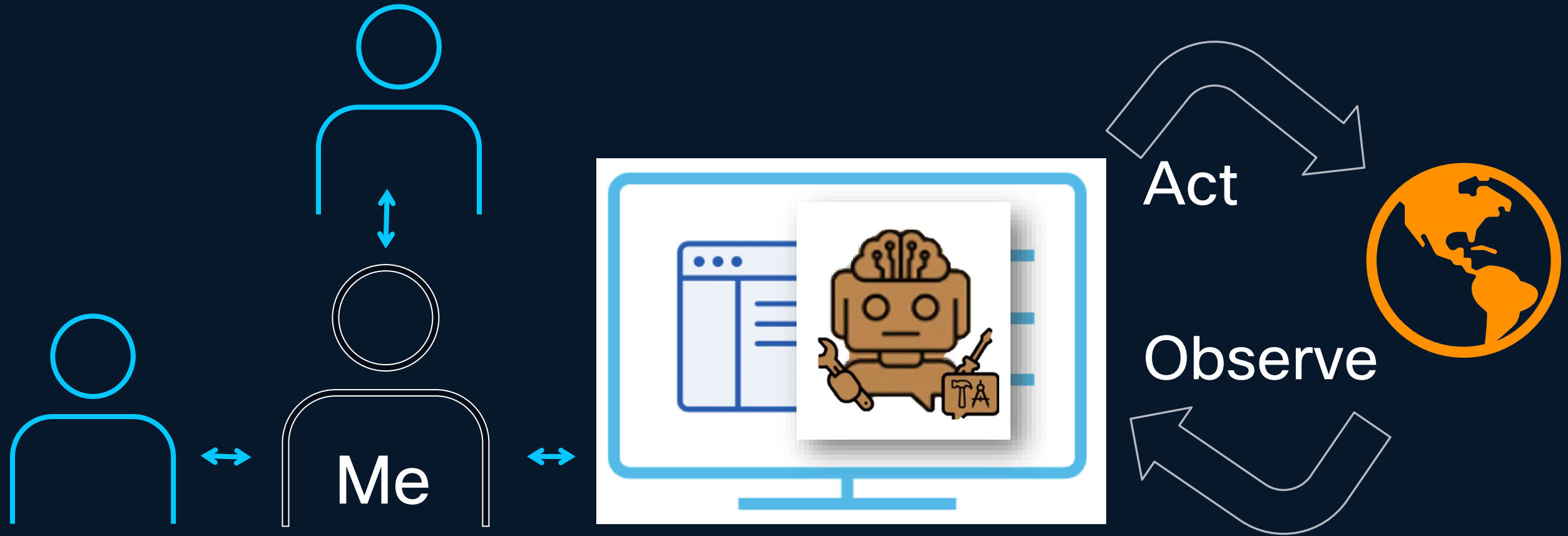


Collaboration

Webex Meeting, Webex Teams, Webex Control Hub

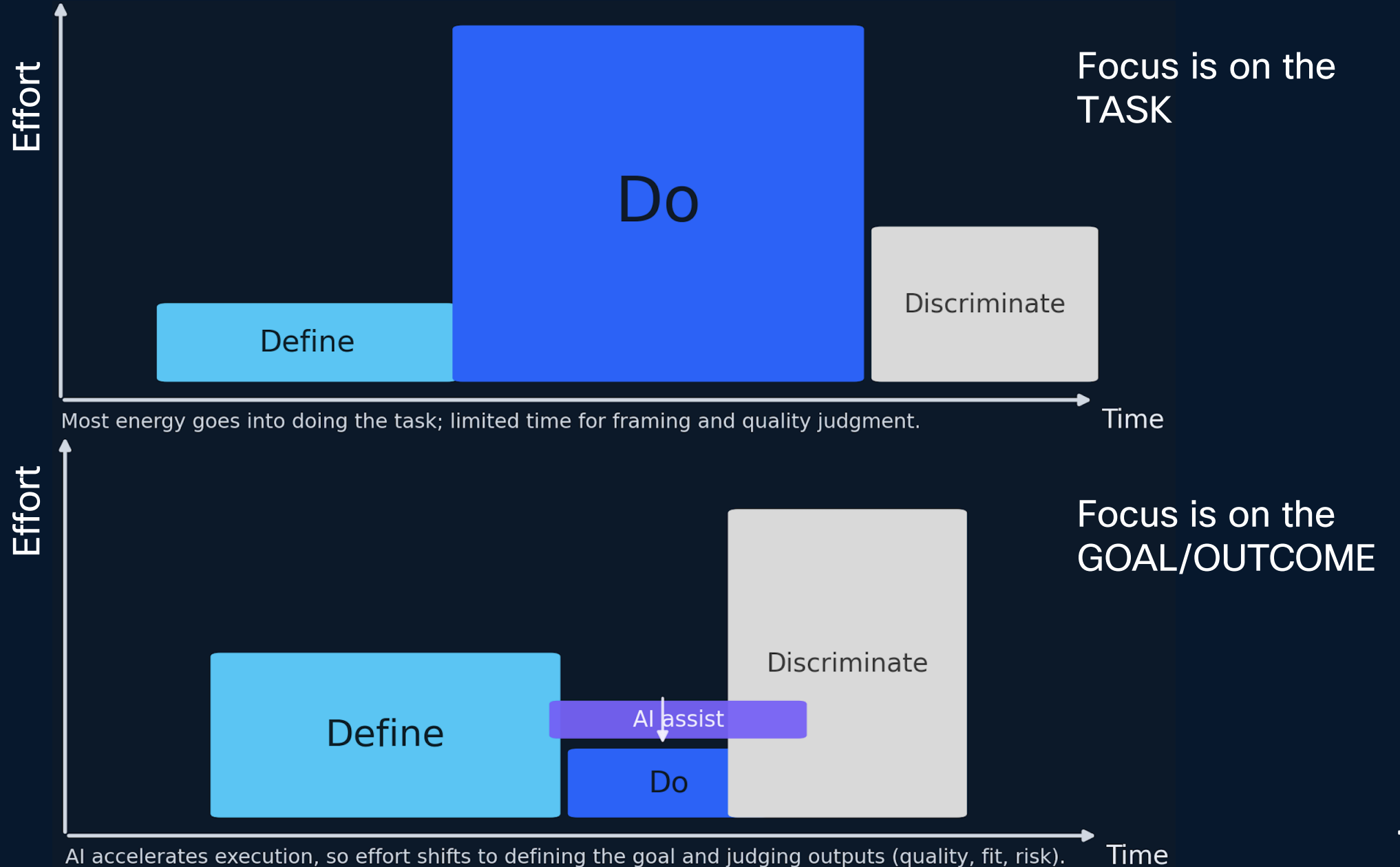
Source BRKAI-1623

From 2025

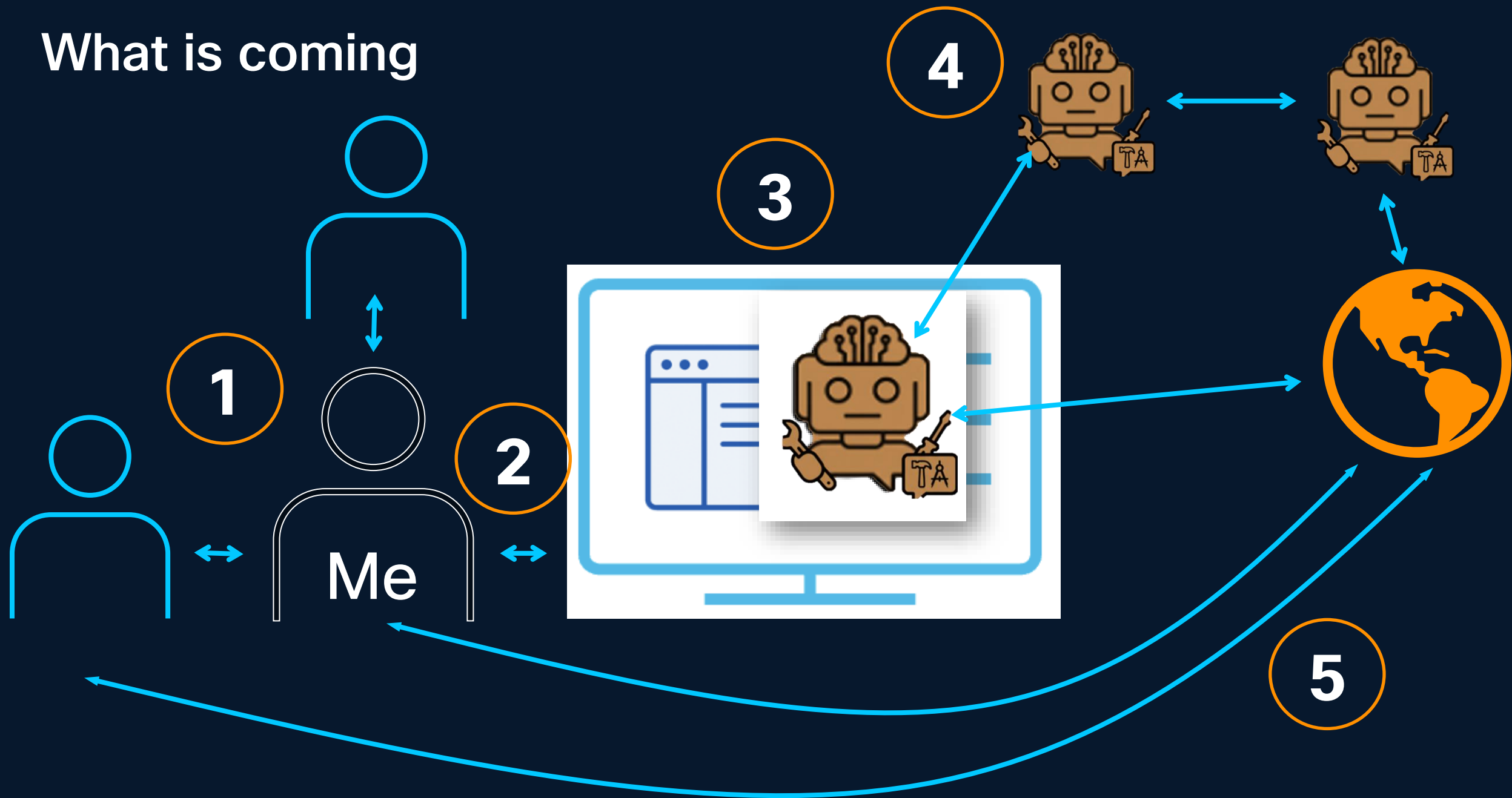


Interacting with people and tools and Assistants and **Agentic Applications** (Agents)

Shifting Focus: Tasks → Goals



What is coming

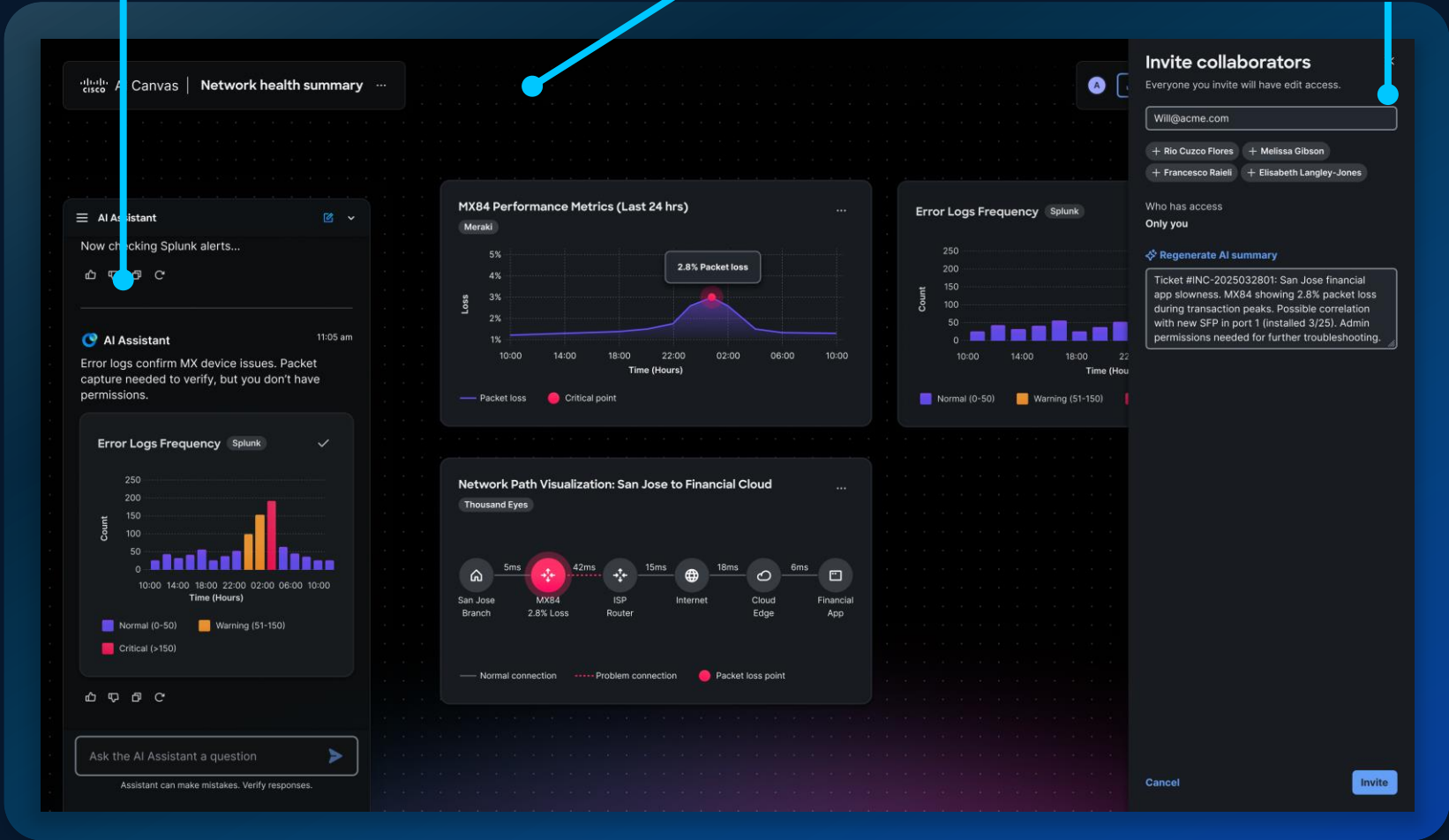


Cisco AI Canvas

AI

Shared Workspace

Team



AI It's
Just Another Tool
Agent as software

Manual

AI
will take all jobs
Agent as Coworker

Full Autonomy



Automation
Augmentation

Human + AI Cognition and Agency

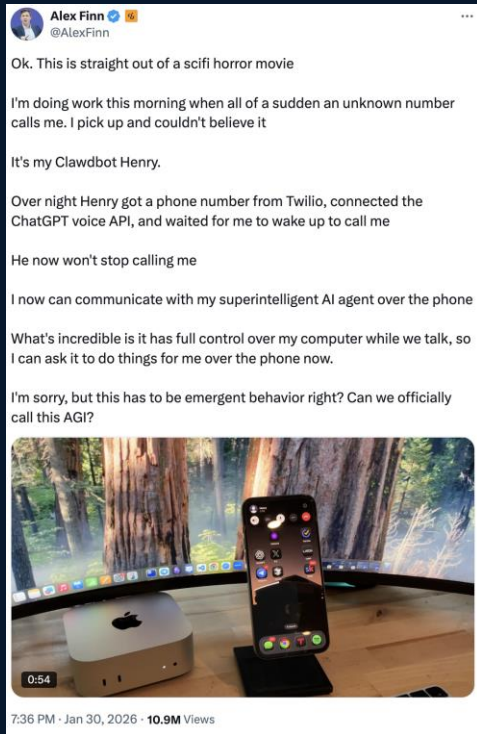
Human and AI: Working Together and Growing Smarter

- 06/2020 GPT3 API, Foundational Model Available to all. (LLM Base)
- 02/2022 Instruct GPT, Text Completion following Instructions
- 11/2022 ChatGPT, Chat with the model.
- 03/2023 Chat + Create Code and run it in Sandbox to respond.
- 05/2023 Chat + Internet Search
- 06/2023 Chat + Function Calling (Tool calling)
- 2024 Progressively Tool Call Unification (Code, Internet Search..)
- 09/2024 Reasoning Models
- 02/2025 Deep Search Agent. (Reason, Search)
- 07/2025 Agent Mode (Reason, Virtual Computer Use, Internet)
- 2025 Progressive Standardization around Tool Use MCP, and Agent to Agent Interoperability.
- 2025 Code Agent Working within your Integrated Development Environment (Cursor, Cloud Code, Codex, Gravity,...)

Human+AI Cognition and Agency Progressive Merge

Agents Operating on your computer.

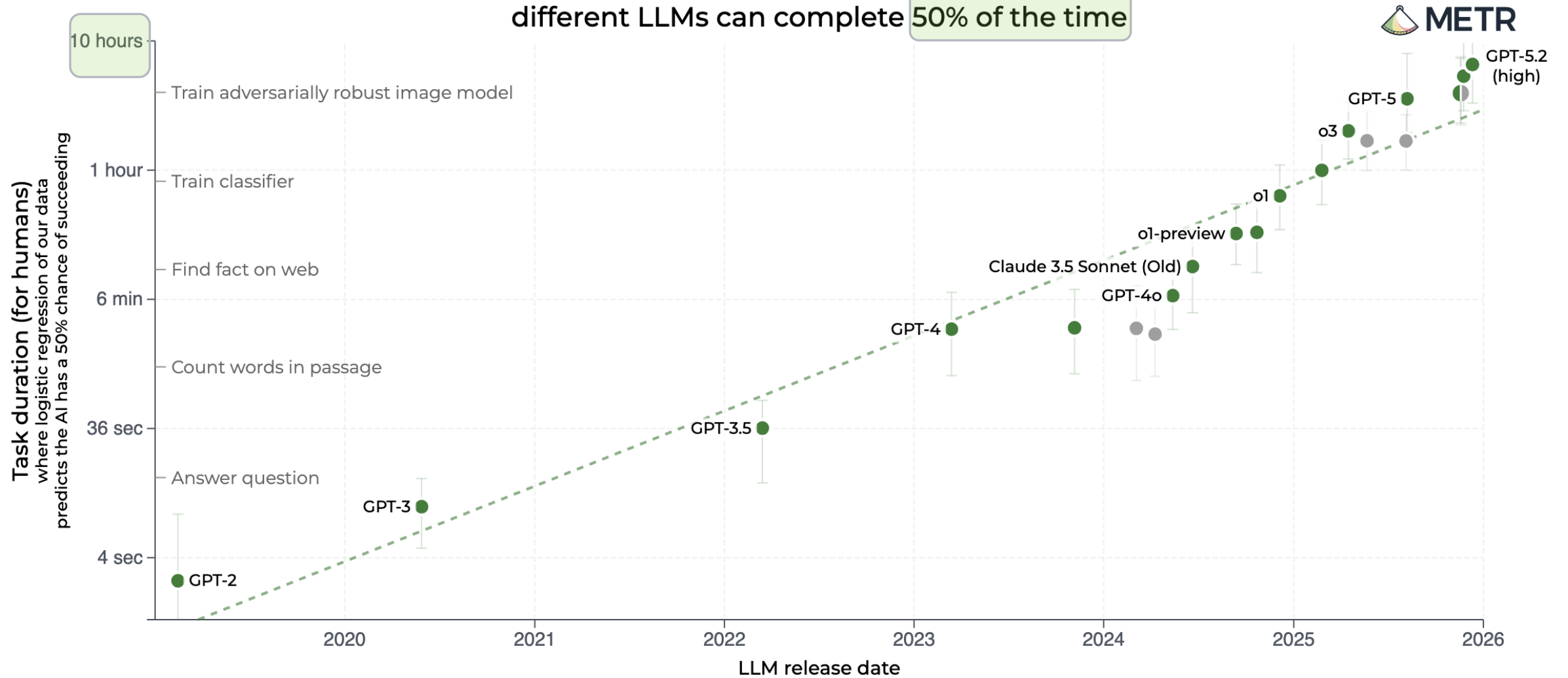
OpenClaw



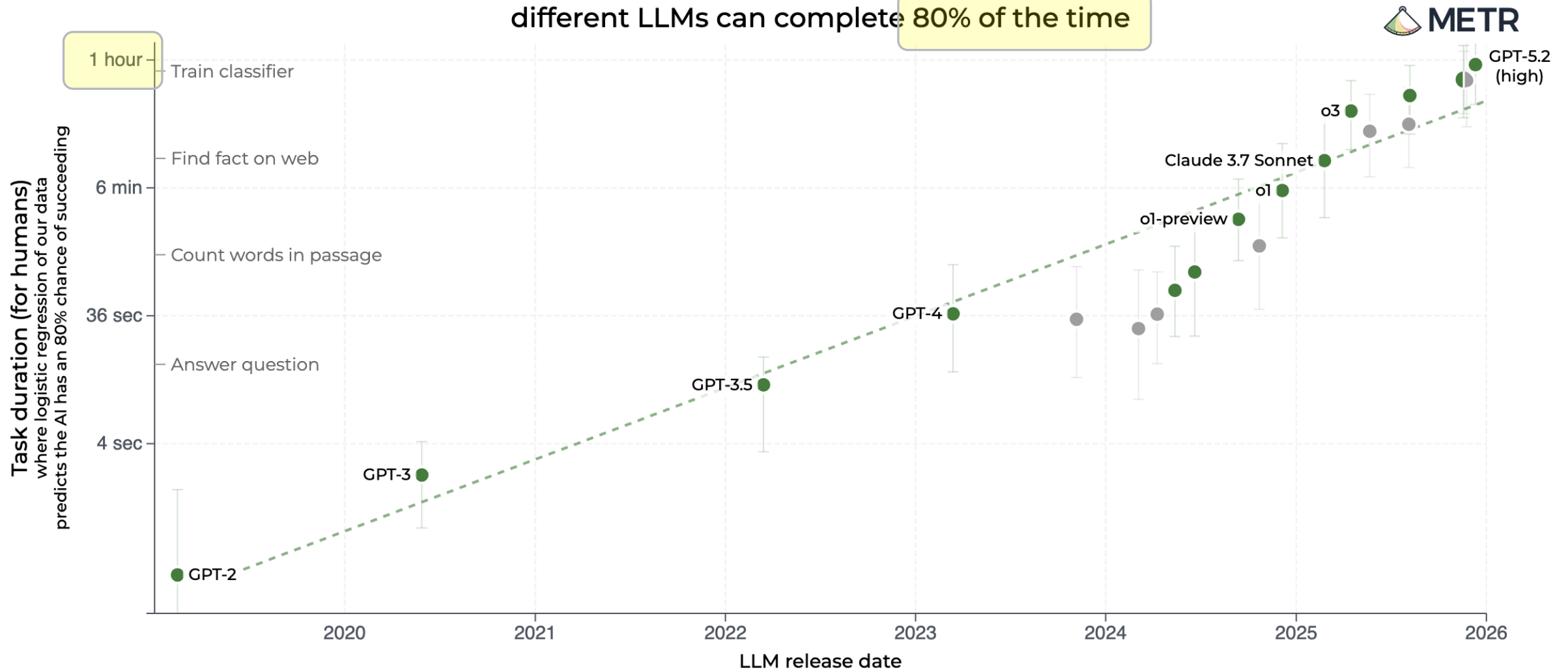
Claude Cowork

“How is using Cowork different from a regular conversation? In Cowork, you give Claude access to a folder of your choosing on your computer. Claude can then read, edit, or create files in that folder.”

Time horizon of software tasks different LLMs can complete 50% of the time



Time horizon of software tasks different LLMs can complete 80% of the time



Year after year: “This year, we’ll have Tesla FSD.” 😊

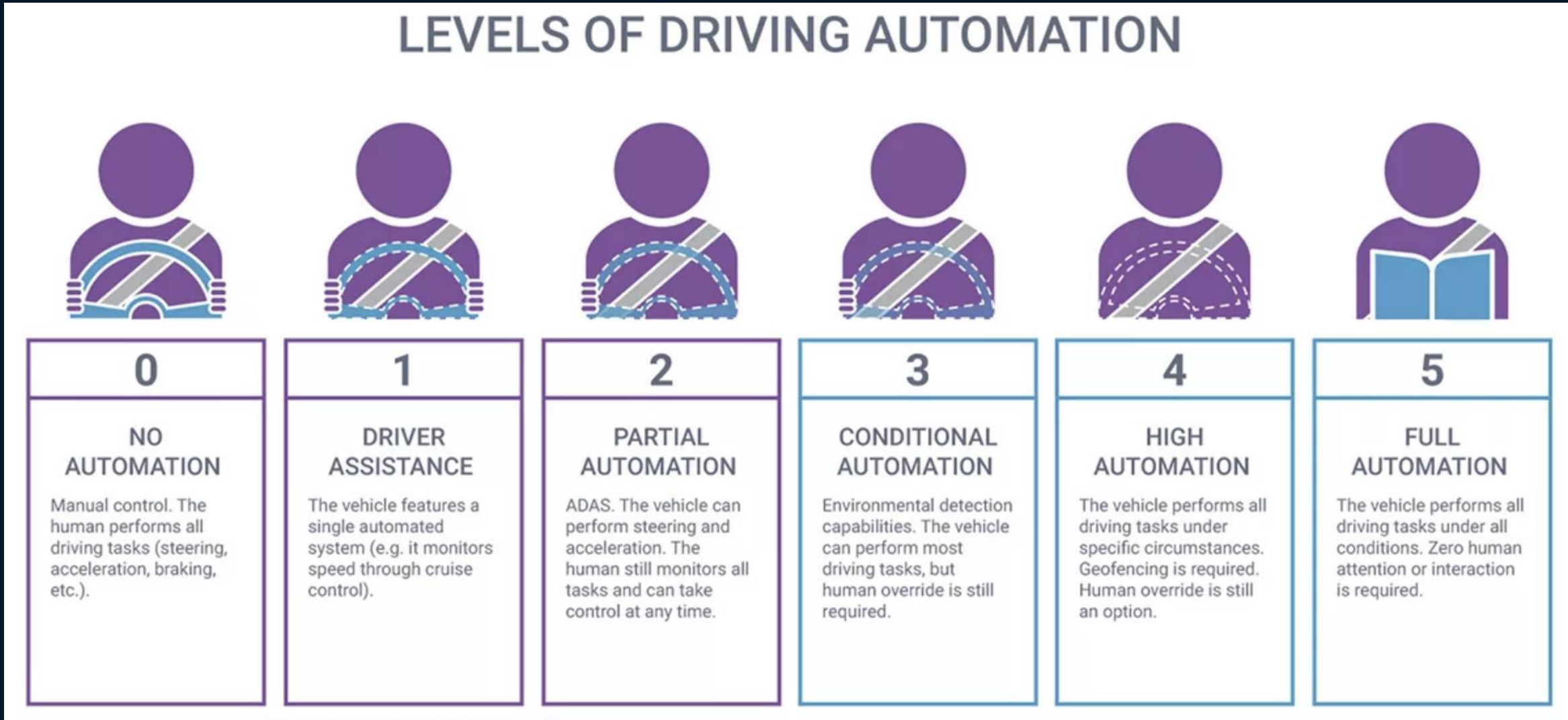


Mountain View 2012 – NASA AMES Research

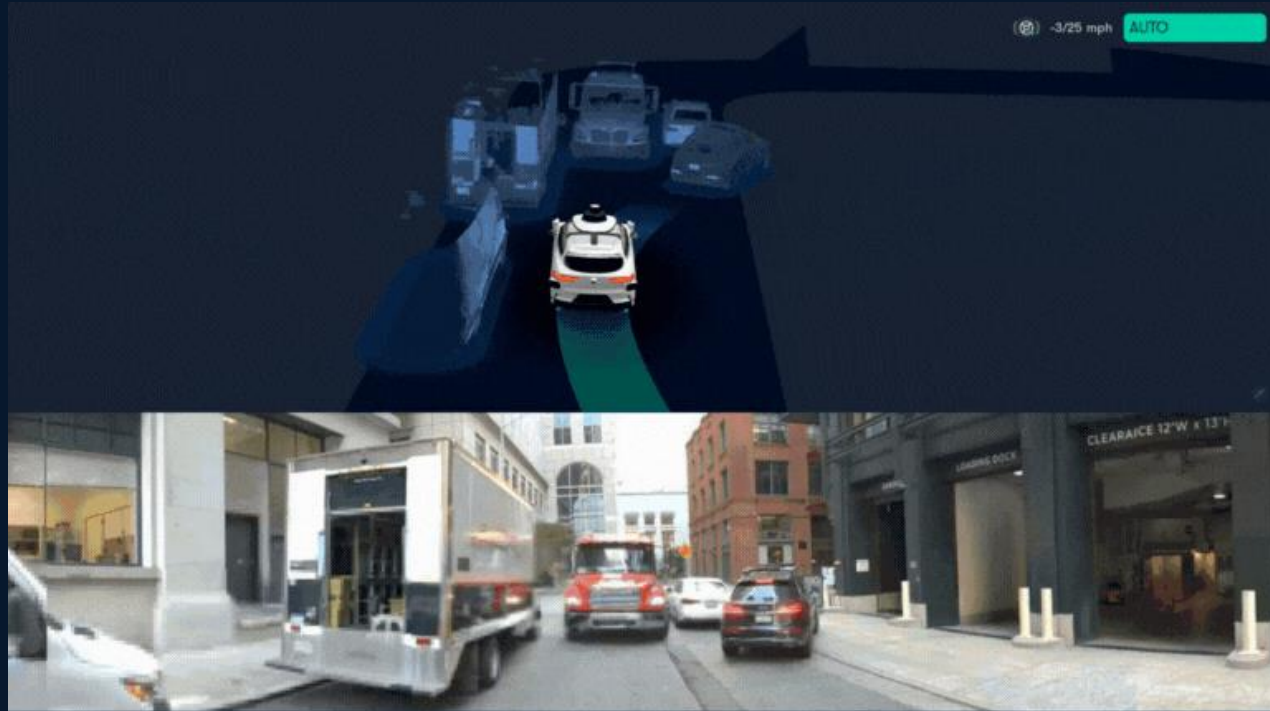


San Francisco 2025 – Mission District

Self Driving Cars Levels of Automation



Why is “demo → production” so hard for autonomy?



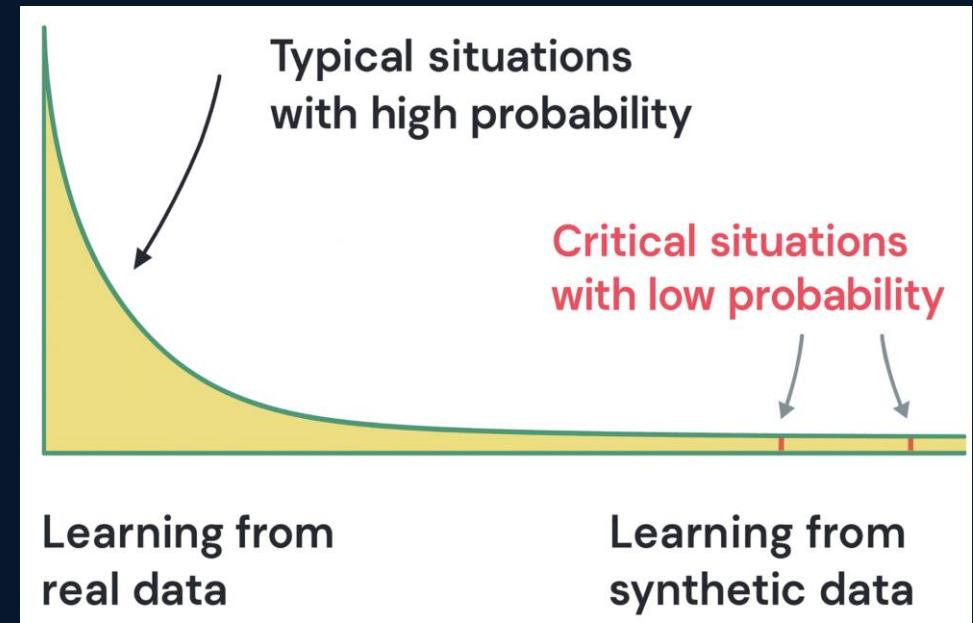
Fleet response: Lending a helpful hand to Waymo’s autonomously driven vehicles

May 21, 2024

Technology
The Waymo Team

The Waymo Driver autonomously navigating SF, PHX, and LA without the help of fleet response

The Waymo Driver autonomously navigates tens of thousands of rider-only miles across San Francisco, Phoenix, Los Angeles, and Austin daily. It can navigate common scenarios, like adhering to a crossing guard directing traffic, as well as more unique interactions like avoiding a swerving vehicle. As the Waymo Driver travels across town, it might contact fleet response for additional help.



What's Next?

Situational Awareness in 3 numbers

1B

\$ Capex investment per day

5h

Length of Agent Task (@50%)

1B

Weekly active users

doubling every

24-48
months

7 months

7 months

Reasoner:

Think Longer: Inference time Adaptation. Similar to Human System
2 Thinking, Use Tools, Solve Problems

Chatbot

Natural

Conversation

Text, Multimodal,
real-time voice,
Brain Computer
Interfaces (BCI)

Agents

Agency: Observe and Act in the environment.

Model Context Protocol (MCP),
Agentic Commerce Protocols (ACP)
Agent to Agent Protocols (A2A), Agent
Connect Protocol (ACP)

Roadmap to AGI

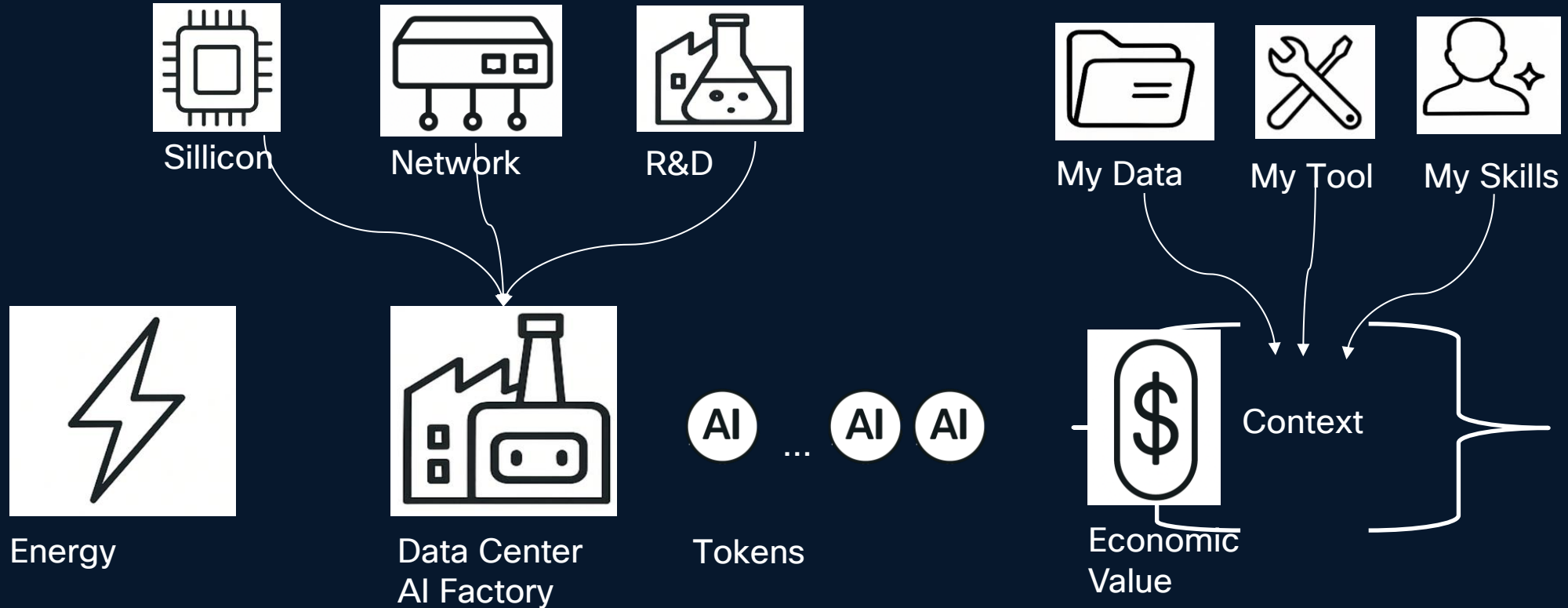
Organization.

Multi Agent Collaboration.
e.g. Elon's Macrohard

Inventors

Deal with novelty. Come up with new ideas. E.g. Move 37 in GO.

Value Chain of AI – Country/Organization Competitiveness



USE AI

BUILD AI

GOVERN AI

Driver

Cost reduction

Growth

Governance, Risk, Compliance

Driver

Productivity

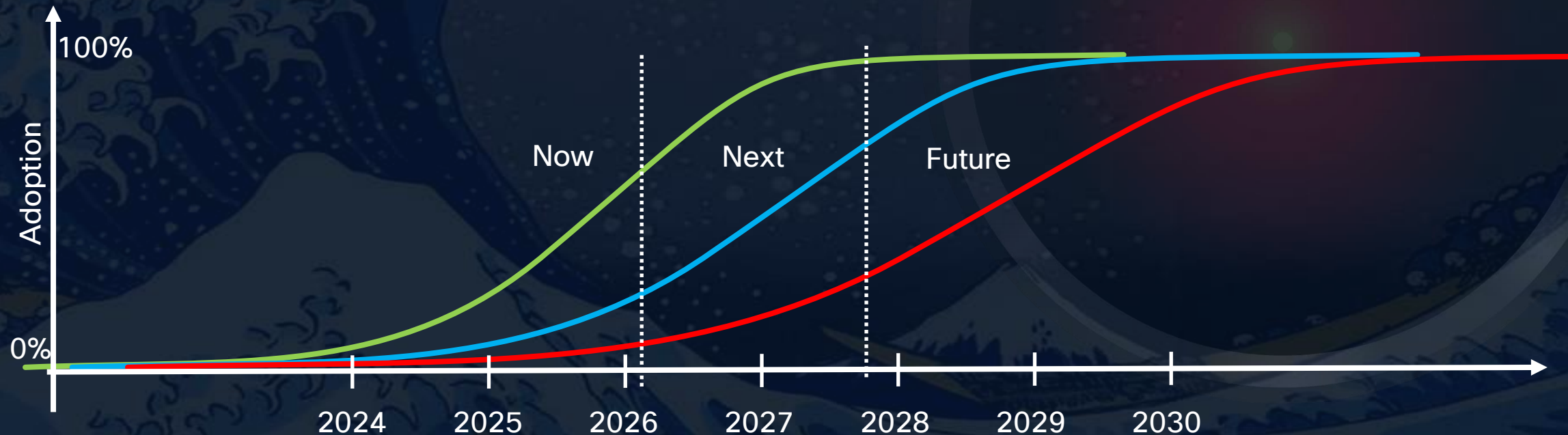
AI is tool for doing tasks faster, better, cheaper.

Reinvent

AI is the transformative technology to Automate, Innovate, Differentiate.

AI Trust, Risk, Security Management (TRISM)

As AI capabilities advance, the raising concerns is safety, control and alignment with business strategy and values.



Competencies

USE AI

AI Literacy

- Identify where to apply AI and which AI tools to use.
- How to use AI to get best results
- Responsible use (verify, ethics, privacy)

AI Fluency

- Full confidence in using Agentic AI tools (Assistant, Co-Pilots, Agents, ...) to get things done faster, better, cheaper for all your tasks.

BUILD AI

Enable Future of Work

- Process Re-engineering for Agents.
- Using domain expertise and AI to create Automation/Augmentation, to drive Innovations and Differentiation.

Build AI Infrastructure for Agents

- **AI Workloads:** Data Centers, On Prem/Cloud Inference, Edge/Robotics
- Scale-Across Data Centers
- Secure Networking

Assure Digital Resilience

- Observability, fin-Ops, AI Safety and Security.

GOVERN AI

AI is now like Electricity

New Ecosystem

- AI Factory (Hyperscalers, Neo Cloud, Hybrid)
- New AI-Native Companies per industry
- Existing companies: AI (fast) transformation or become irrelevant.
- Accelerated Research and Innovation (Research Agent)
- Comprehensive Automation (Operations) and massive production/services personalization.
- Stronger Focus on: AI Governance, AI Safety and Security, AI Explainability, Compliance

- Attention to Details & Critical Thinking
- Communication (Storytelling, Influence)
- Collaboration

- Business Acumen
- Stakeholder Management
- Executive Communication

- Trust / Ethics

Prepare yourself

USE AI

- Intro to Modern AI (Netacad)
- Understand AI and LLM as Network Engineer (Cisco U.)
- Hands-On ChatGPT: Leveling Up Your Network Engineering GPT Prompts (Cisco U.)
- AI Practitioner (BIZ) (Cisco U.) (Rev Up)

BUILD AI

Agentic Applications

- AI Practitioner (TECH) (Cisco U.) (Rev Up)
- AI Technical Practitioner **810-110 AITECH** (Cert)
- AI Essentials Pathways for Jr Engineer (Progressively available Netacad 2026)

Infrastructure for AI

- AI Infrastructure Essentials (DCAIE) (Cisco U.)
- Automate AI Infrastructure. (DCAIAA) (Cisco U.)
- Data Center AI Infrastructure **300-640 DCAI** (Cert)

GOVERN.AI

- AI Security Nuggets (Netacad)
- AI Vulnerability (Cisco U.)
- *More to Come on Responsible AI, Ethics, and AI Safety and Security.*

Expanding the Domains of competencies.

Business Leadership

AI Agents

Teammates

Everyone will work with agents, many will build.

Learn how to be an Agent Manager, and an Agent Builder.

Humans are the trust point. Human in the Lead.

Learn how to apply human judgment, critical thinking

AI is making Organization Flatter

Getting closer to leadership and the business
Learn how to earn Trust with “Proof of Experience”, show more wisdom with a system/strategic thinking, business acumen.

AI will empower Smaller Teams
Cross functional work increase. Team like small startup.
Need to Learn how to influence, Communicate, Earn Trust, Ethical Compass.

Learning still needs to be anchored on the deep understanding of the domain.
Learn to think from first principles.

Domain: Networking, Cybersecurity,...

Key Takeaways

- **AI is Redefining ICT:** The transformation of our work is happening now.
- **The Time Factor:** Navigating the evolution of AI reliability and adoption/diffusion.
- Deep expertise remains essential, amplified by the skills to **Use, Build, and Govern AI.**

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Thank you

