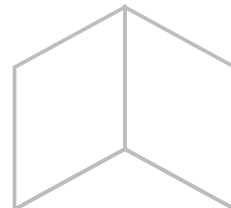
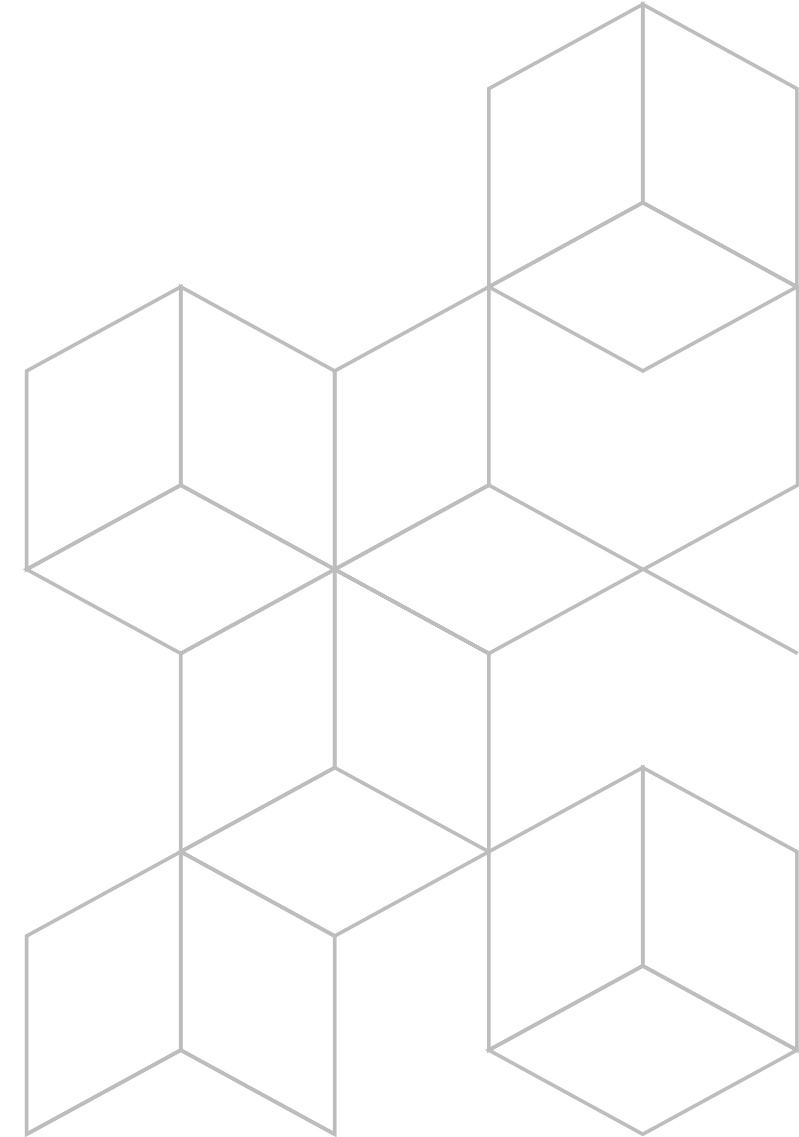
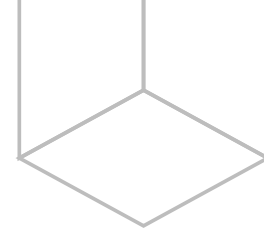




Use of AI in Governments

perspective on current developments

Ratko Mutavdzic
WWPS Government Industry
Microsoft Corporation

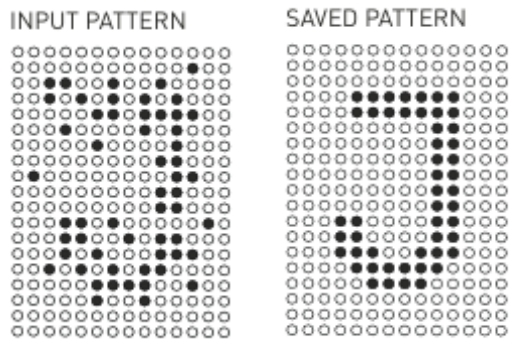


2024 Nobel Prizes

Physics

John Hopfield

Geoffrey Hinton



They trained artificial neural networks using physics

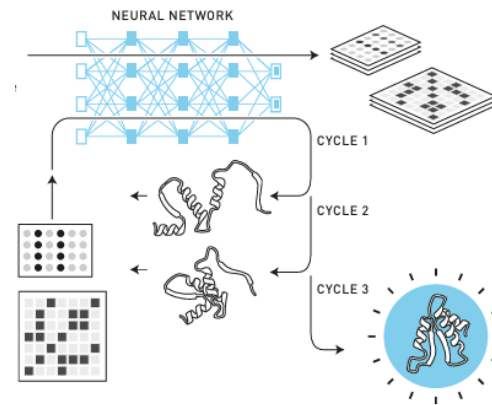
This year's two Nobel Laureates in Physics have used tools from physics to develop methods that are the foundation of today's powerful machine learning. John Hopfield created an associative memory that can store and reconstruct images and other types of patterns in data. Geoffrey Hinton invented a method that can autonomously find properties in data, and so perform tasks such as identifying specific elements in pictures.

Chemistry

David Baker

Demis Hassabis

John M. Jumper



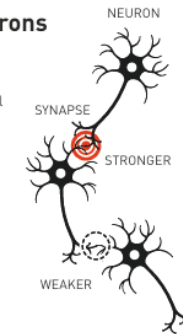
They cracked the code for proteins' amazing structures

The Nobel Prize in Chemistry 2024 is about proteins, life's ingenious chemical tools. David Baker has succeeded with the almost impossible feat of building entirely new kinds of proteins. Demis Hassabis and John Jumper have developed an AI model to solve a 50-year-old problem: predicting proteins' complex structures. These discoveries hold enormous potential.

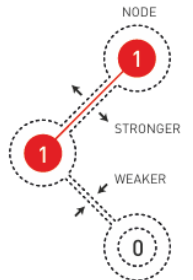
- **Physics:** Hopfield and Hinton have used tools from physics to develop methods that are the foundation of today's powerful machine learning, work that started in 1980...
- **Chemistry:** Baker, Hassabis and Jumper **have developed an AI model** to solve a 50-year-old problem: predicting proteins' complex structures.

Natural and artificial neurons

The brain's neural network is built from living cells, neurons, with advanced internal machinery. They can send signals to each other through the synapses. When we learn things, the connections between some neurons get stronger, while others get weaker.



Artificial neural networks are built from nodes that are coded with a value. The nodes are connected to each other and, when the network is trained, the connections between nodes that are active at the same time get stronger, otherwise they get weaker.



©Johan Jarnestad/The Royal Swedish Academy of Sciences

- „... my basic prediction is that AI-enabled biology and medicine will allow us to compress the progress that human biologists would have achieved over the next 50-100 years into 5-10 years. I'll refer to this as the “compressed 21st century”: the idea that after powerful AI is developed, we will in a few years make all the progress in biology and medicine that we would have made in the whole 21st century.”

Dario Amodei, CEO of Anthropic AI

New AI Economy

Devs and
Users

Distribution

Applications

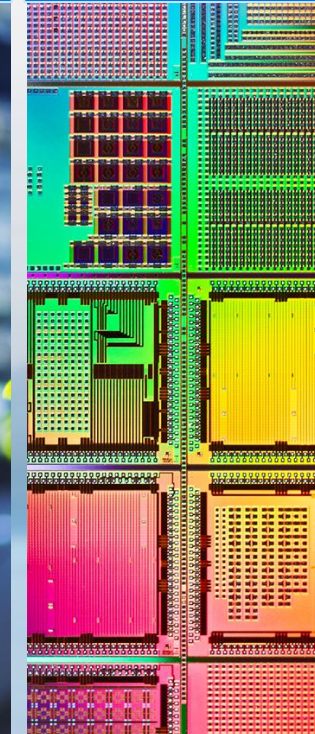
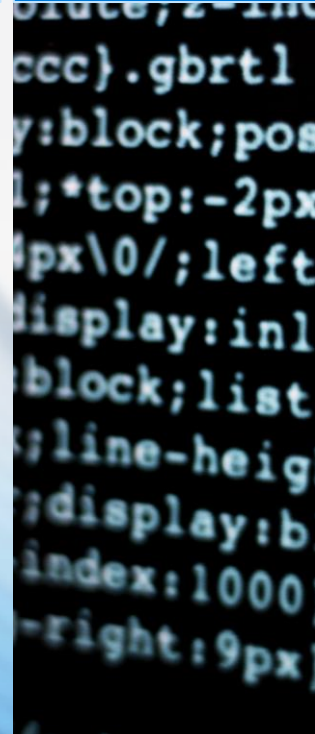
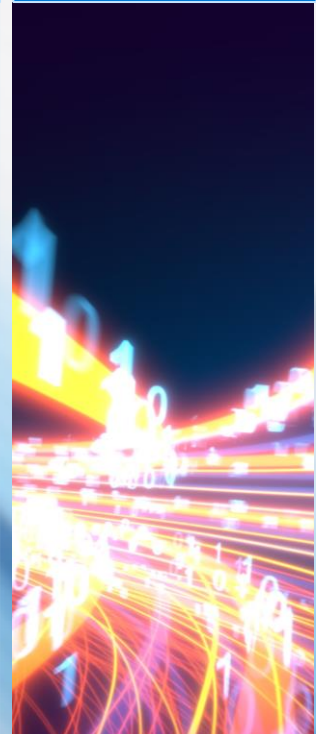
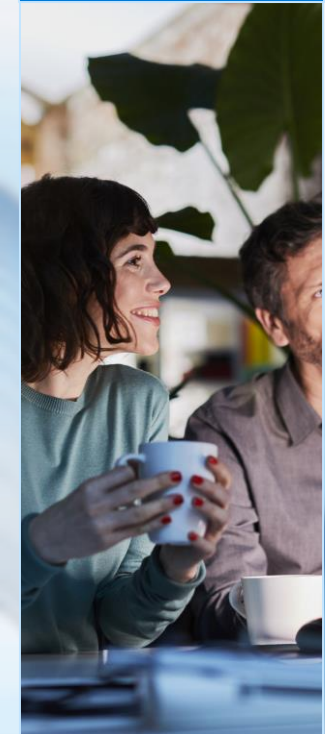
Tooling

Foundations

Data

Datacenters

Chips



Land and Power

Learning from the Past

**Military & Defense
Funding DARPA**



**Academic &
Research Support**



**NASA & Space
Research**



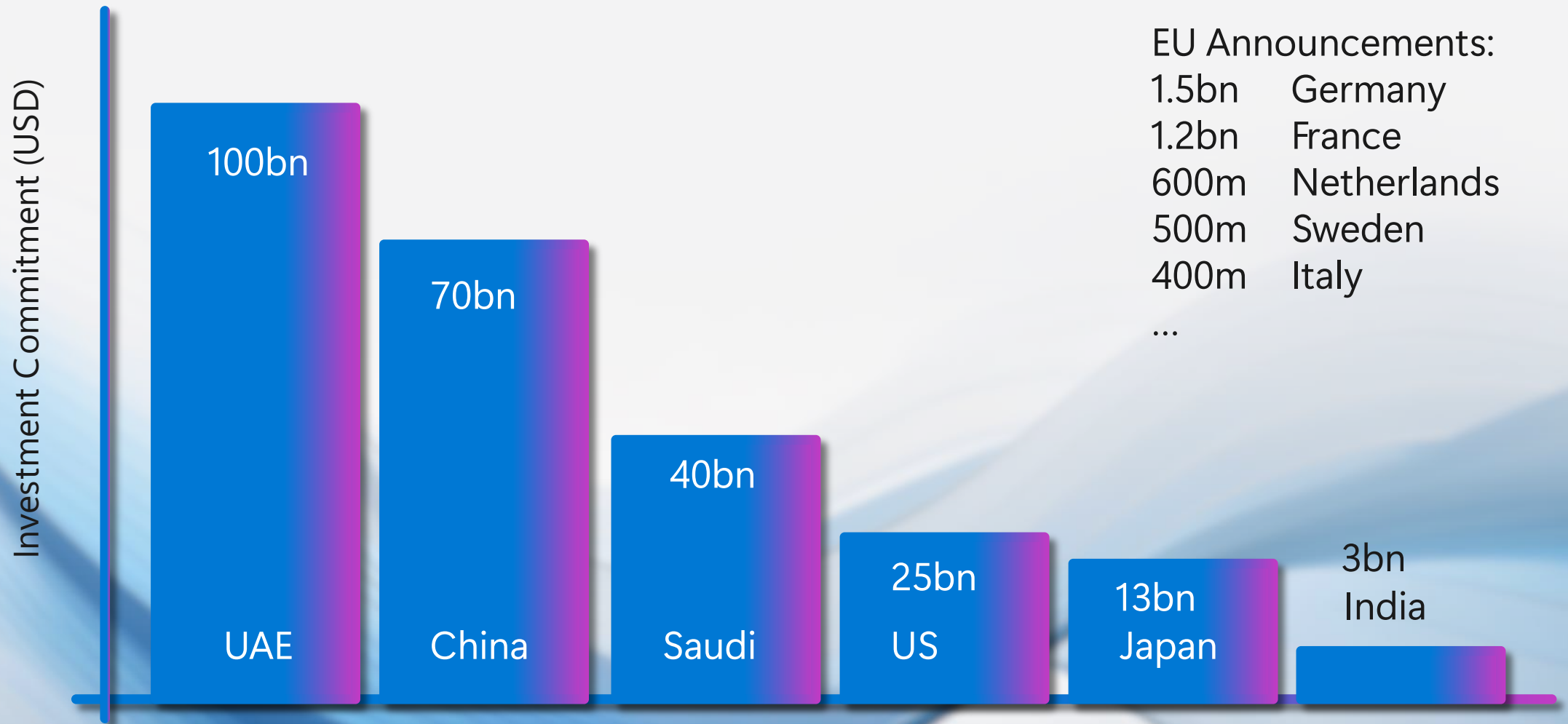
**Telecommunication
& ARPANET**



**VC & Government
Policies**



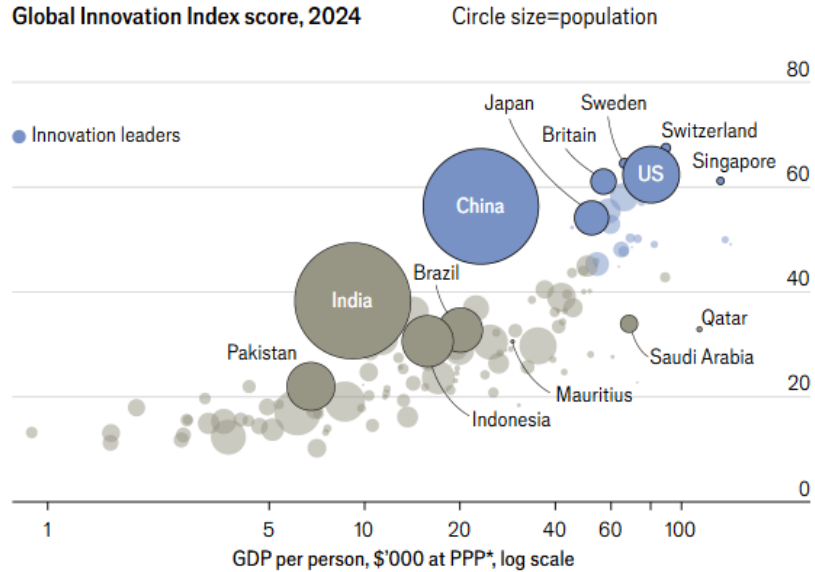
Government AI investment commitments



Countries ranked by Public announcements, different sources

Innovation Leaders

The Swiss spot



Top innovation leaders

1 Switzerland	2 Sweden	3 United States	4 Singapore	5 Britain
Index score 67.5	64.5	62.4	61.2	61.0

Source: Global Innovation Index, WIPO, 2024

*Purchasing-power parity

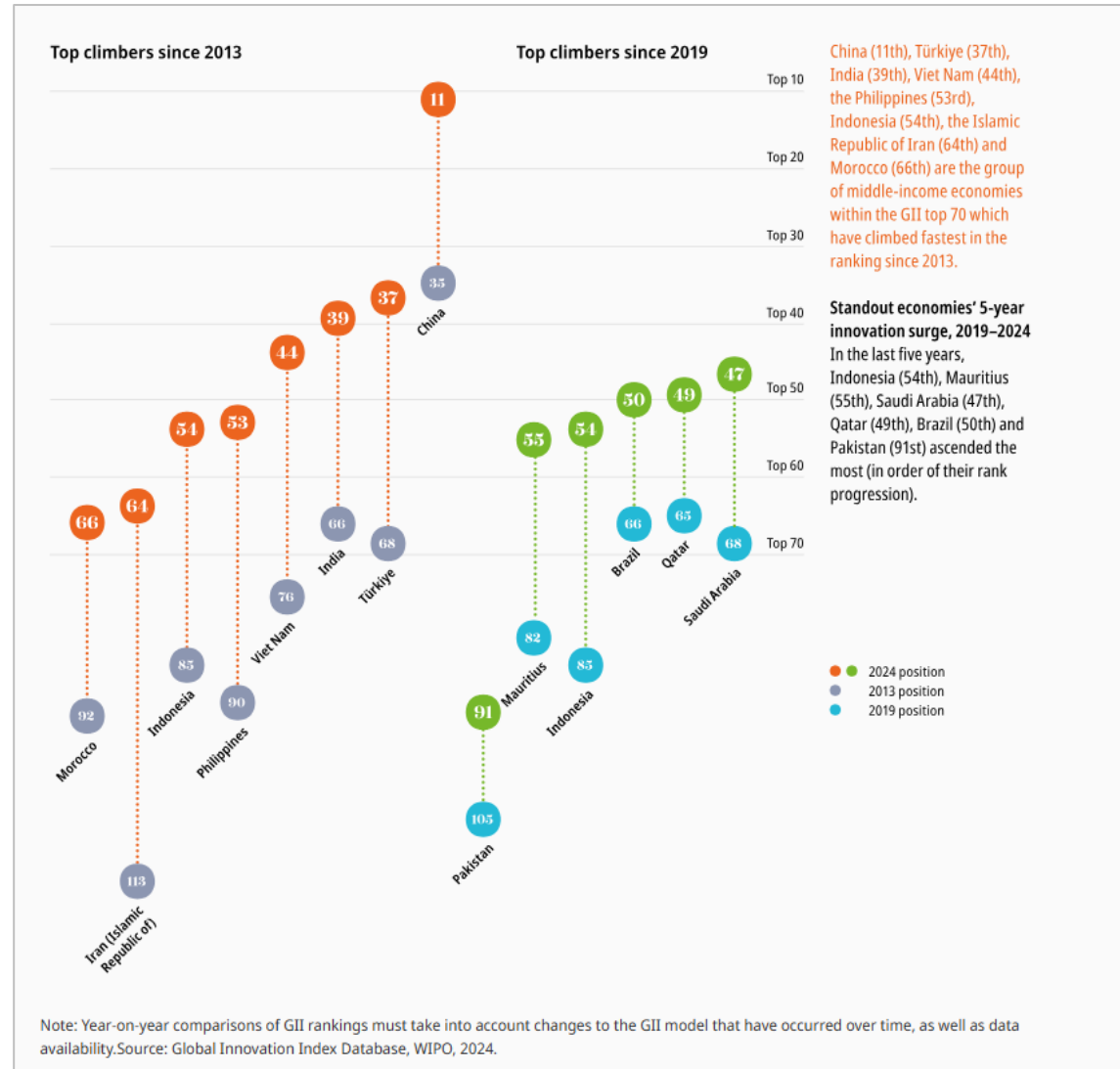
Over the past five years, the fastest climbers in the rankings have been Indonesia, Mauritius, Saudi Arabia, Qatar, Brazil and Pakistan.

Efficiency Champions: Australia (23rd), the United Arab Emirates (32nd), Saudi Arabia (47th), Botswana (87th), Cabo Verde (90th) and Rwanda (104th), find it harder to translate inputs into outputs.

Graphic detail | Lead the pack

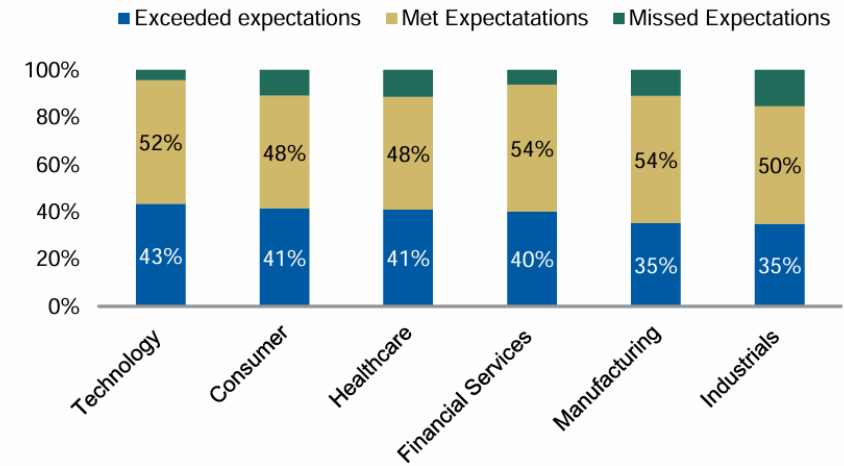
The world's most innovative country

A ranking of 133 countries shows that the global innovation boom is stalling

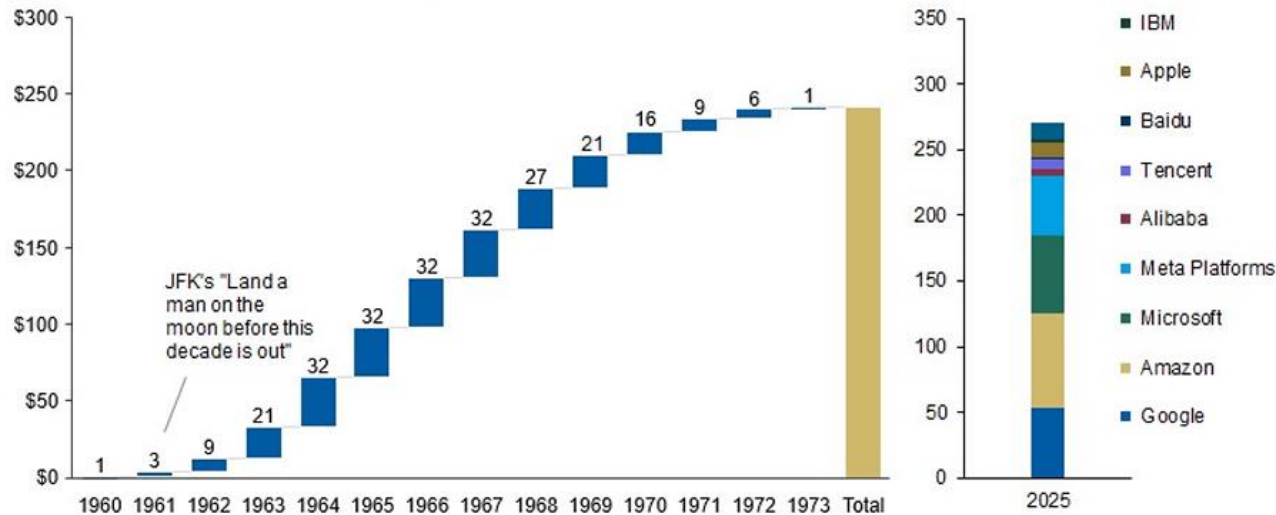


Why Partners are needed?

Most companies are seeing solid ROI on AI

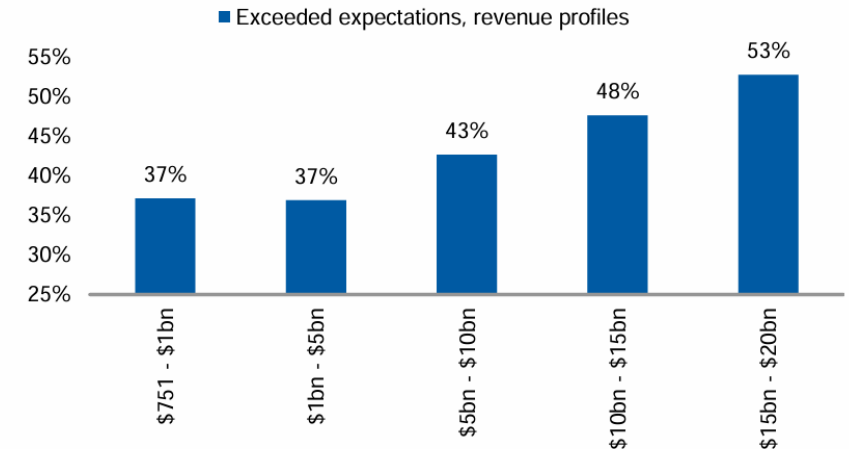


Cumulative Cost of Apollo Space Program v. 2025 Cloud Capex Spend



Source: Dreier (2022), Minneapolis Fed, Morgan Stanley Research

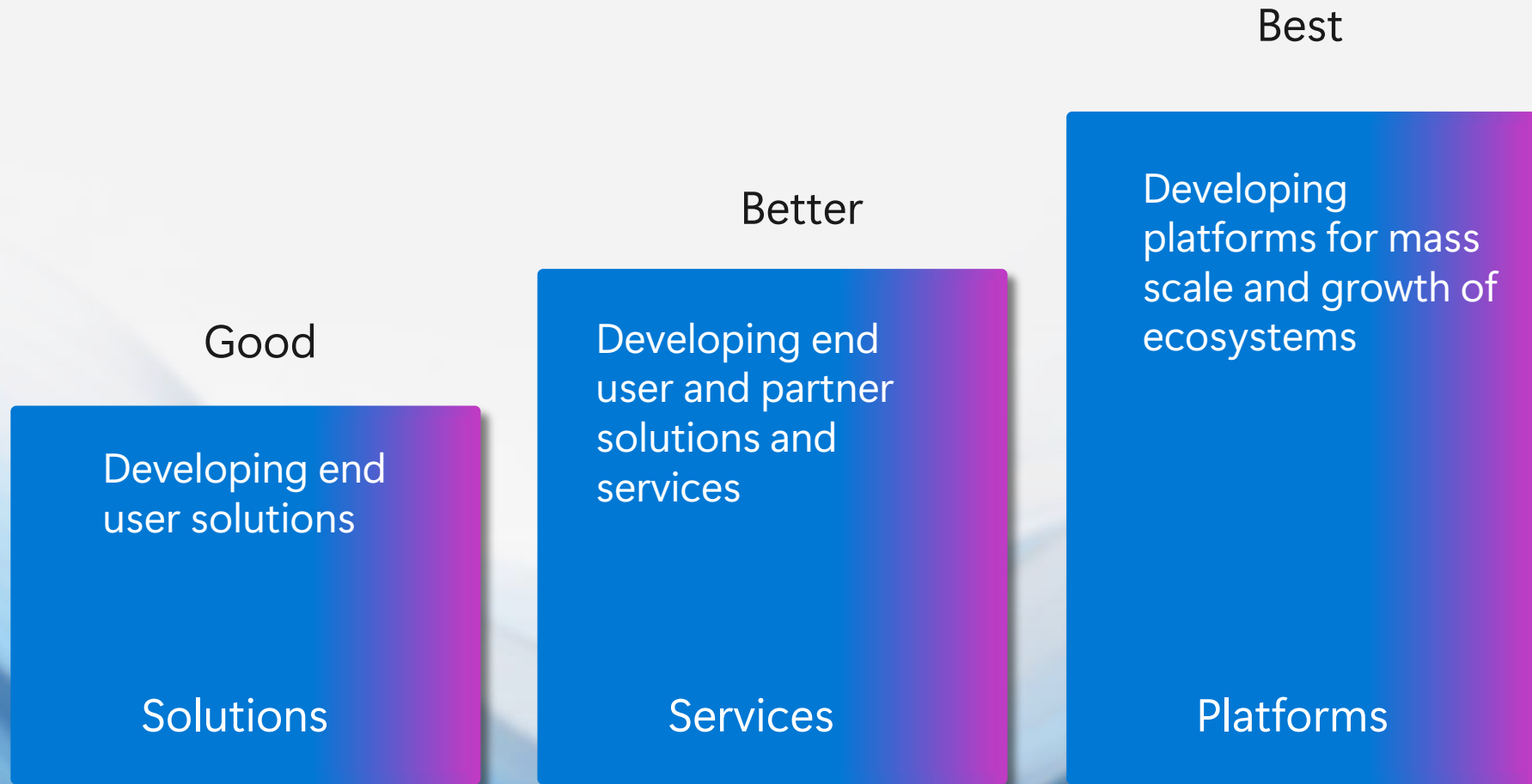
Better Results among Bigger Companies



FY25 Cloud Capex alone will be in touching distance of the Apollo space program (between 1960 - 1973) in real terms. This cloud capex spend has been increasing at an accelerating rate.

Most companies are seeing ROIs at or above expectation for GenAI solutions already launched. ~40% of respondents report ROI exceeding expectations, which skews positive to larger companies.

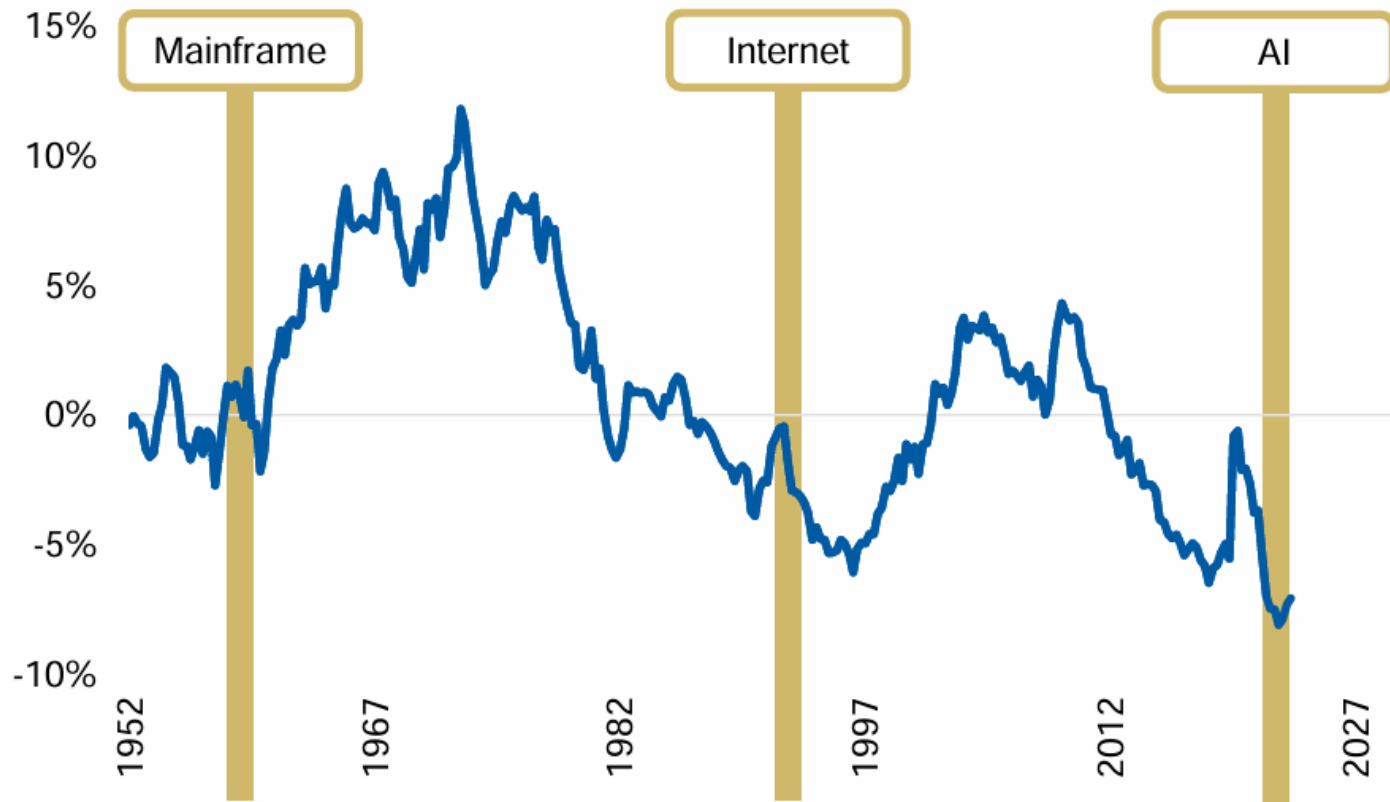
Government AI engagement framework



What are Governments doing when it comes to AI driven growth?

Government Productivity as a Core Focus

US Labor Productivity (De-trended)

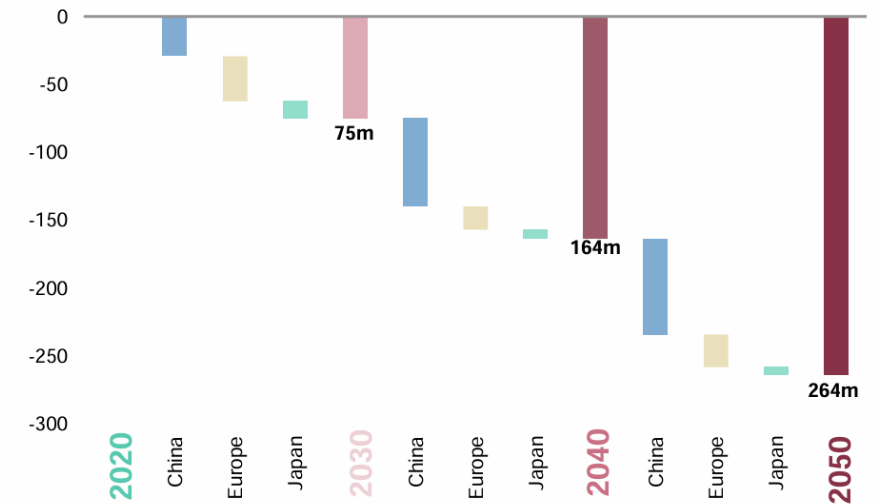


Human + ChatBot > Human

Although we ultimately imagine an 'agentic' GenAI future, the key near term application is productivity enhancing Chatbots.

Why do we care?

By 2030 there will be 75m fewer workers: Major countries are facing material demographic headwinds – AI's productivity potential could pick up the slack.



Source: FRED, Morgan Stanley Research. Note: Chart showing detrended non-farm business sector labor productivity (% deviation from trend)

Top use cases for generative AI in **Government**



Deliver personalized experiences

Self-service portals
Call/contact centres

[Learn more](#)



Empower the government workforce

Employee productivity
Case management optimization
RFP creation & automation
Audits & fraud detection

[Learn more](#)



Transform government operations

Legacy app migration
Proactive data-driven decision making

[Learn more](#)



Secure government data and protect resources

Cybersecurity resilience
Threat detection

[Learn more](#)

AI transformation opportunities for Government

What can AI do for you?

Deliver personalized experiences

10 of 22 languages

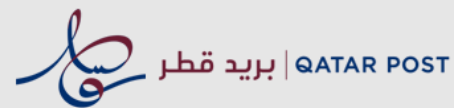
in India are covered by chatbot Jugalbandi since April 2023, bringing greater access to government assistance.¹

JUGALBANDI

Empower the government workforce

1,000+ dispatch documents

analyzed and uploaded every day.²



Transform government operations

20K service help calls

automated with AI and machine learning.³



Secure government data and protect resources

1000s of lawyers

in Brazil will be adopting AI copilots to review thousands of lawsuits, summons, and subpoenas.⁴



“
**Any sufficiently advanced technology
is indistinguishable from magic.**

Arthur C. Clarke

Trendy digitálnej transformácie vo verejnej správe



Očakávania
občanov
- rovnaká
úroveň služieb,
akú majú
napríklad v
bankách

Rýchlosť a efektivita

Digitalizácia a dostupnosť online služieb

Personalizácia a proaktívne služby

Transparentnosť a dôvera

Zákaznícka podpora a komunikácia 24/7

Bezpečnosť

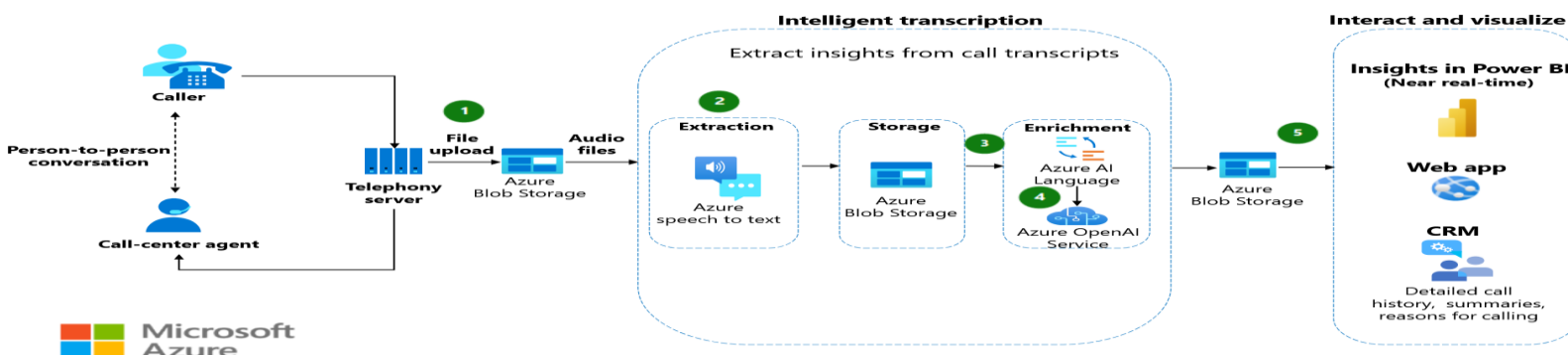
AI call centrum – rozšírenie súčasného call centra Úradu Práce



✧ Ministerstvo práce a sociálných vecí v súčasnej dobe prechádza všeobecnou digitálnou transformáciou. Súčasťou tejto celkovej stratégie je vývoj služby Digital Assistant, ktorá má za cieľ zaviesť umelú inteligenciu do interných procesov a celkovo zlepšiť skúsenosť občanov a zároveň znížiť náklady.

🧠 Multikanálová komunikácia s klientami Úradu práce, AI Voicebot, AI chatbot, AI email, AI odpovede na podania – na základe znalostí LLM

🎯 Jedná sa o kľúčovú iniciatívu ministerstva z hľadiska digitalizácie procesov zákazníckej podpory a mala by im pomôcť dosiahnuť dva hlavné ciele: 1. Lepšie služby zákazníkom 2. Úspory



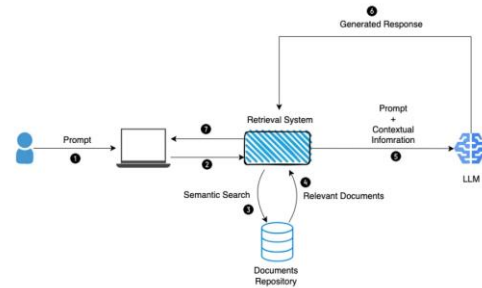


PoC Digitálny asistent vyšetrovateľa (KRP Stredočeského kraja)

- Automatizácia a zrýchlenie práce vyšetrovateľa od výsluchu až po úkony v trestnom konaní
- Audio záznam a prepis „speech to text“ spolu so zhrnutím skutku a vyťaženie kľúčových dát (meno, výška škody, číslo účtu a pod.)
- Rozpoznanie typu trestného činu alebo priestupku podľa definovaných parametrov
- Automatické vytvorenie a vyplnenie povinných dokumentov podľa typu skutku
- Finálna kontrola zostáva na vyšetrovateľovi
- Momentálne sa nasadzuje v produkčnom prostredí

AI Asistent kontrolóra

Najvyšší kontrolný úrad SR



- Dokončený prototyp v júli 2024
- Príprava a zostavenie podkladov pre vytvorenie záverečnej správy o kontrole
- Vstupné dáta sú jednotlivé kontrolné protokoly
- Úspora času – z pôvodných cca 2 mesiacov



KLÍČOVÉ FAKTY

- AI Riešenia sú **pomocníkom** pre náročné úlohy (čas, zdroje), úspora sa dá kvantifikovať!
- Otestovanie AI riešenia a nasadenie pre otestovanie nie je komplexný projekt na roky!
- Stratégiu používania AI a scenáre definujú ľudia...



Microsoft