

Dr. Pogácsa Zoltán

habilitált egyetemi docens

AUTOMATIZÁCIÓ

Robotok, algoritmusok és a Mesterséges
Intelligencia



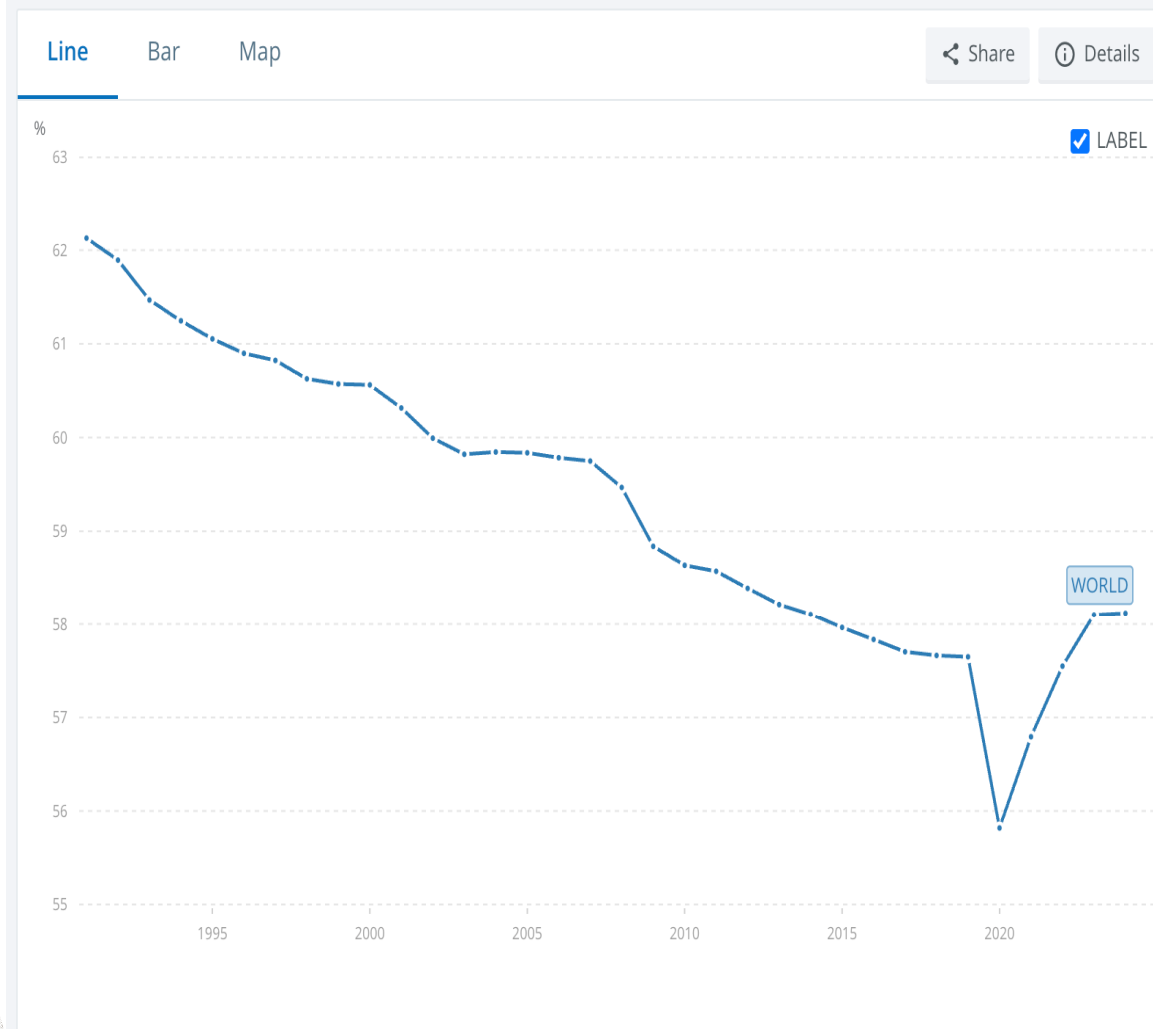
A globális
foglalkoztatási
ráta
csökken!

Employment to population ratio, 15+, total (%) (modeled ILO estimate)

ILO Modelled Estimates database (ILOEST), International Labour Organization (ILO), uri: ilostat.ilo.org/data/bulk, publisher:

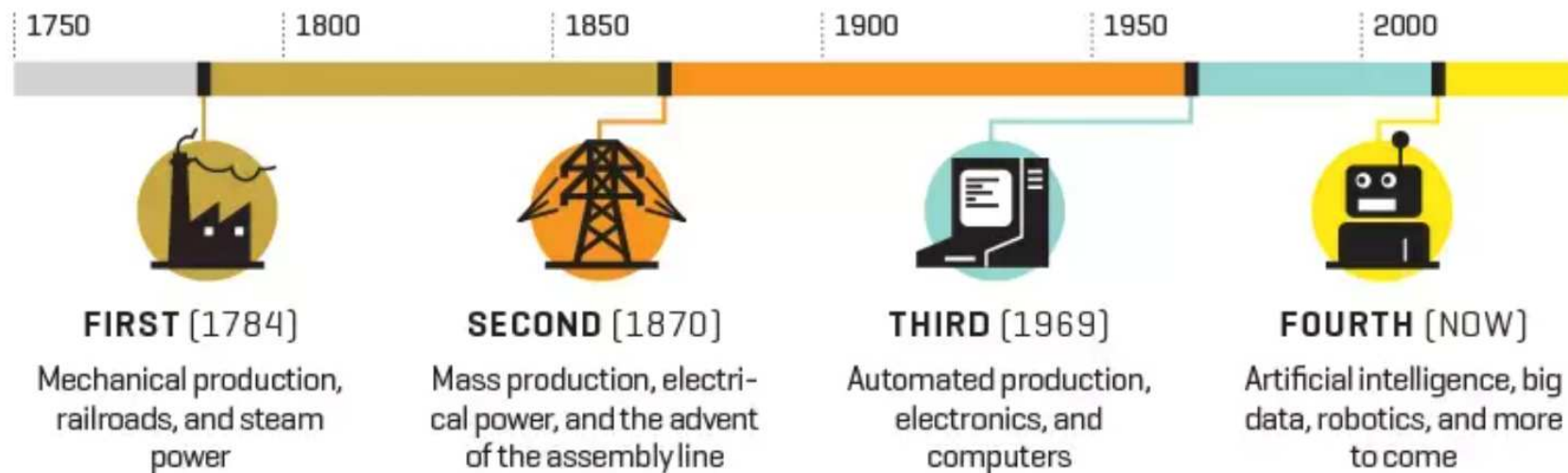
ILOSTAT, type: external database, data accessed: January 07, 2025

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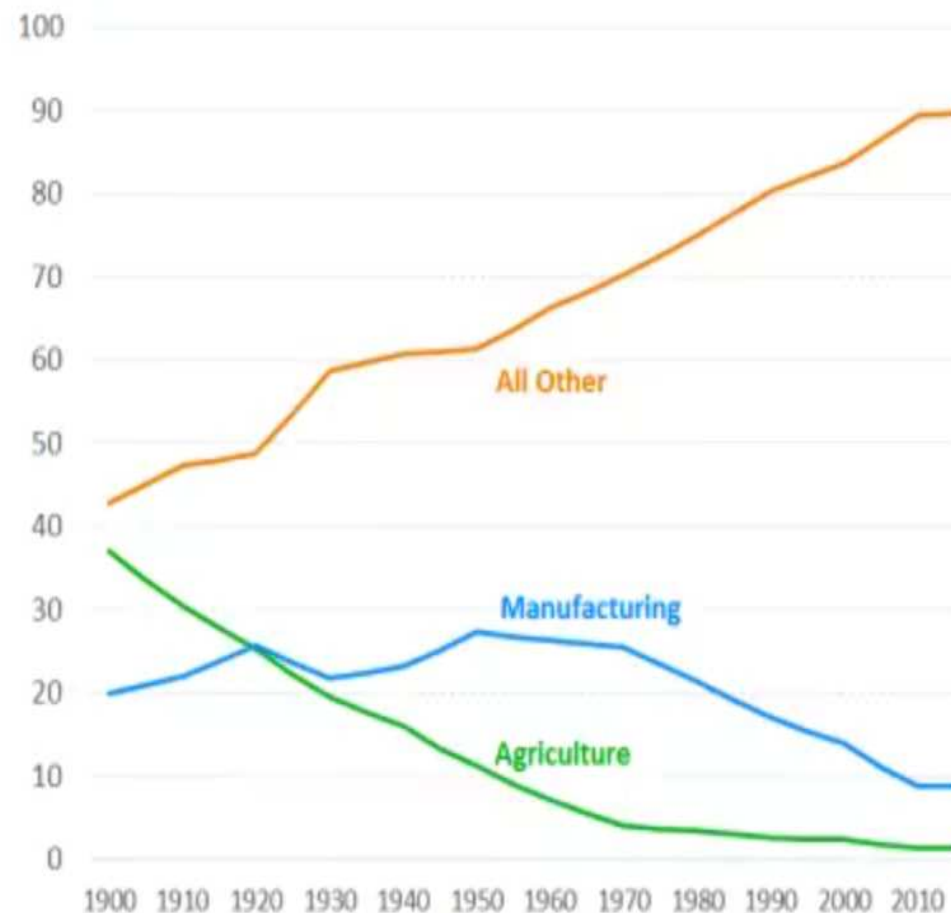
JOB LOSSES DUE TO AUTOMATION?

THE FOUR INDUSTRIAL REVOLUTIONS



A MEZŐGAZDASÁG ÉS
AZ IPAR MÁRIS
AUTOMATIZÁLÓDTAK

Figure 1—Distribution of the Labor Force by Sector
Percent

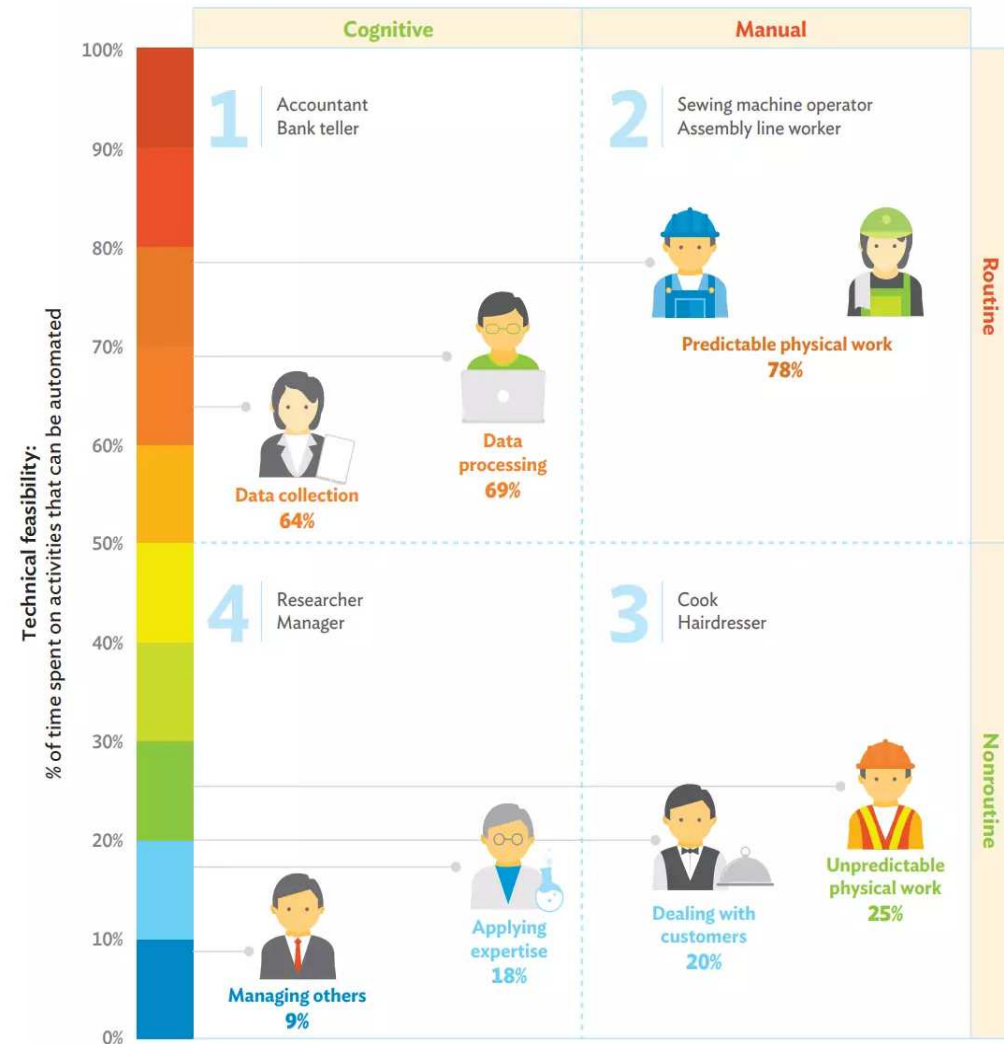


Sources: "Productivity Trends in the United States" by John W. Kendrick for the National Bureau of Economic Research, 1961; US Bureau of Economic Analysis; NCCI

A CHAT GPT ELŐTT

Csak a
rutinizálható
munkahelyeket
féltettük

2.1.9 Impact of automation on jobs

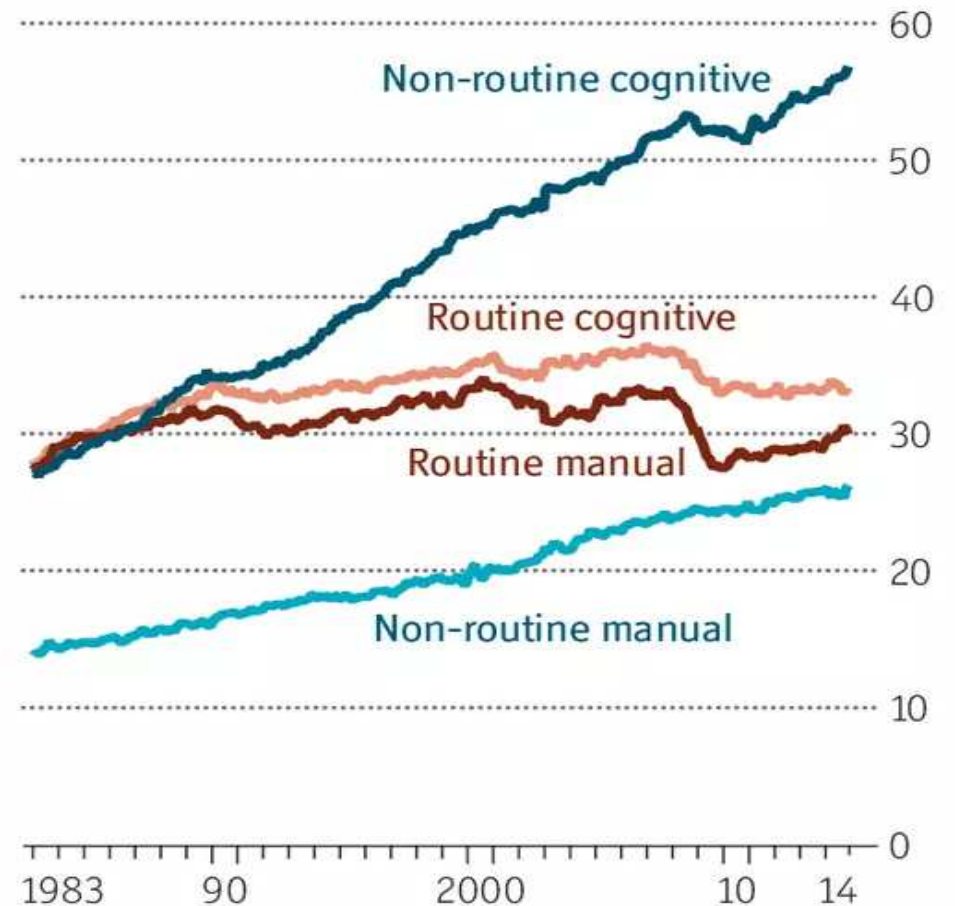


Note: Percentages are from Frey and Osborne (2017) estimates on probability of automation. Framework is based on Acemoglu and Autor (2011).

CSAK A NEM
RUTINIZÁLHAT
Ó NŐTT

Think

United States employment, by type of work, m

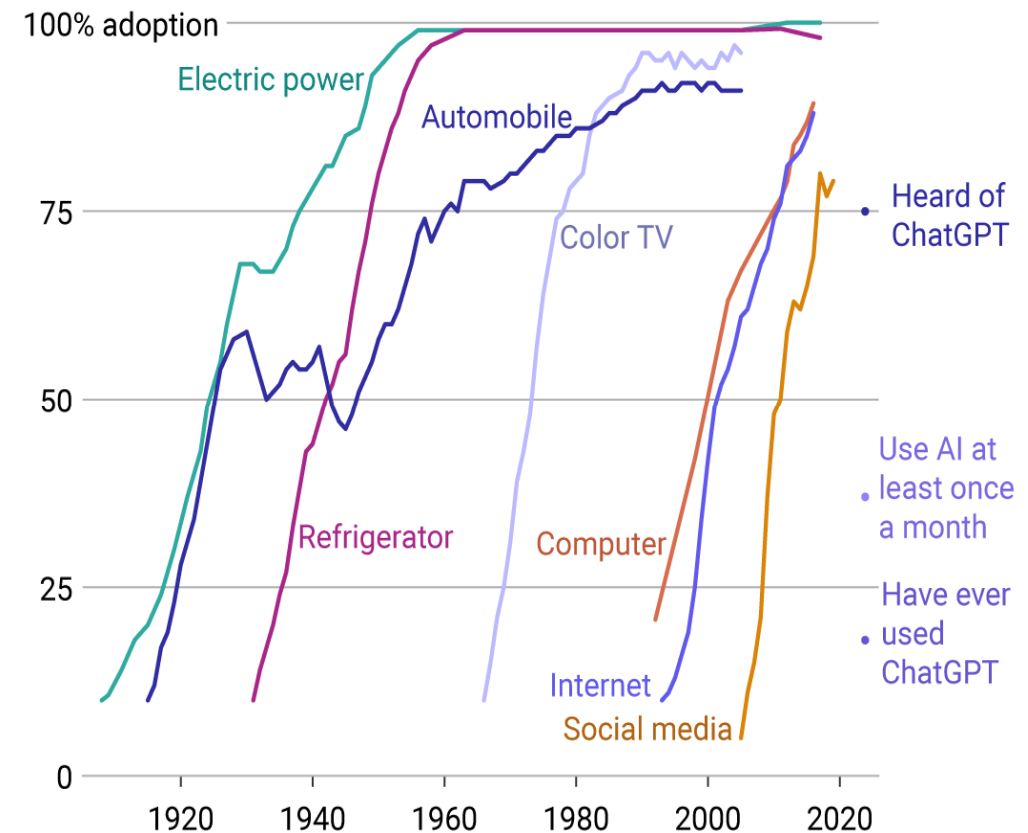


Sources: US Population Survey; Federal Reserve Bank of St. Louis

ADAPTÁCIÓS FELGYORSULÁ S

Modern technologies are quicker to be adopted

It took five decades for U.S. households to go from 10% adoption of electricity to 99%. In contrast, it took just 15 years for social media to go from 5% adoption to 79%.



Note: The 2023 survey results are for American adults, while the historical data are for American households.

Data source: Our World in Data, Pew Research Center, YouGov

ADAPTÁCIÓS FELGYORSULÁS

ChatGPT Sprints to One Million Users

Time it took for selected online services to reach one million users



* one million backers ** one million nights booked *** one million downloads

Source: Company announcements via Business Insider/LinkedIn



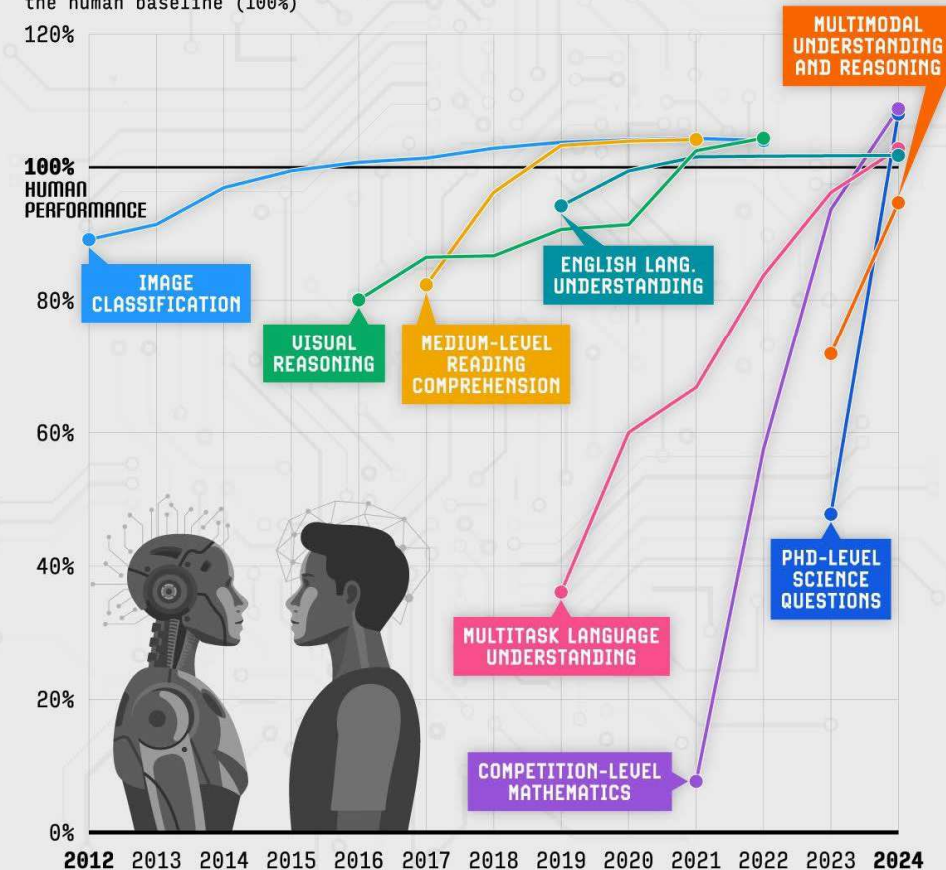
AZ AI
BÁRMIT
TUD, AMIT
AZ
EMBEREK

AI VS. HUMAN PERFORMANCE IN TECHNICAL TASKS

AI models have rapidly improved and now exceed human performance in almost every technical task.

Humans still lead in **multimodal understanding and reasoning**, which involves questions across disciplines that include charts, maps, tables and images.

Performance relative to the human baseline (100%)



COLLABORATORS RESEARCH • WRITING Niccolo Conte | ART DIRECTION • DESIGN Sabrina Lam

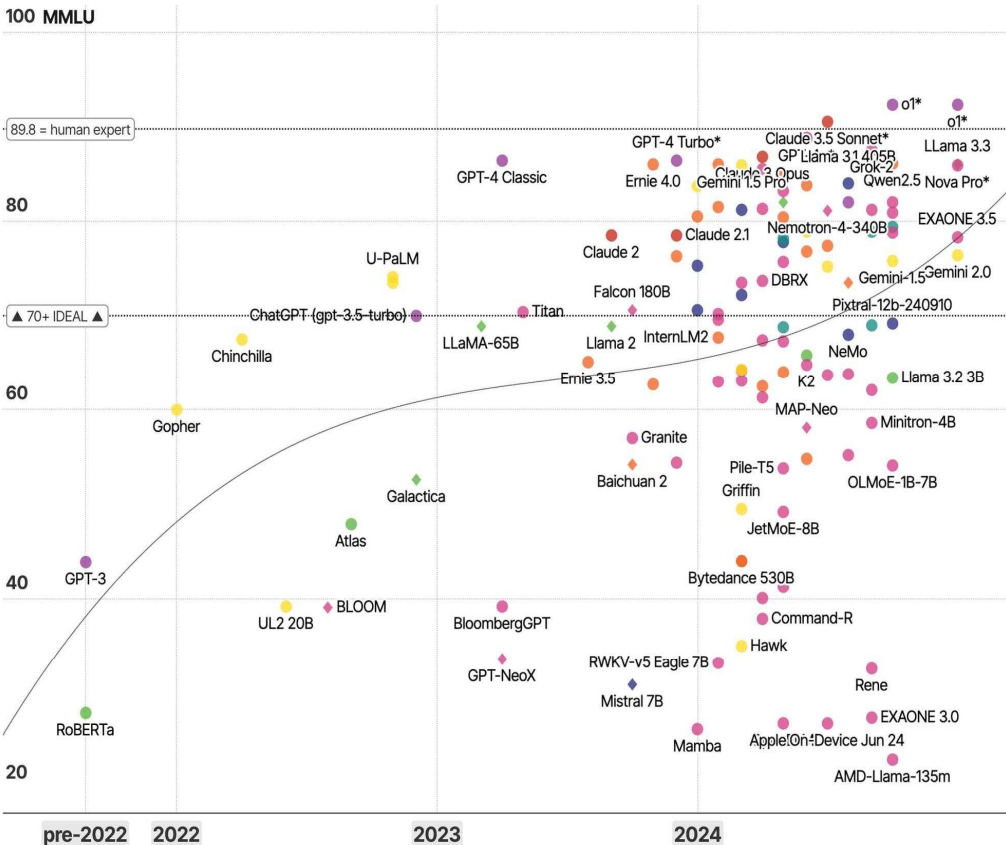
Source: Stanford University, 2025 AI Index Report

A NAGY NYELVI MODELLEK FEJLŐDÉSE

Major Large Language Models (LLMs) ranked by capabilities

 open access

anthropic chinese google meta microsoft mistral openAI other

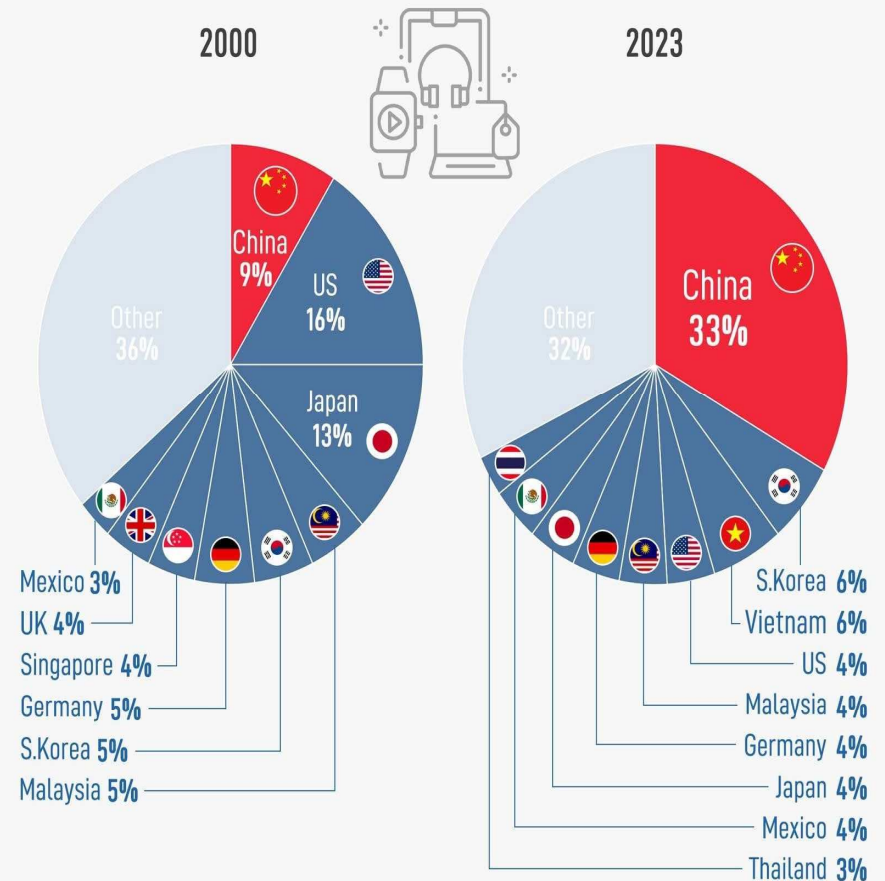


David McCandless, Tom Evans, Paul Barton
Informationisbeautiful // Dec 2024

* = parameters undisclosed // source: LifeArchitect

Ki gyártja az
elektronikát?

SHARE OF GLOBAL ELECTRONICS EXPORTS: 2000 VS 2023

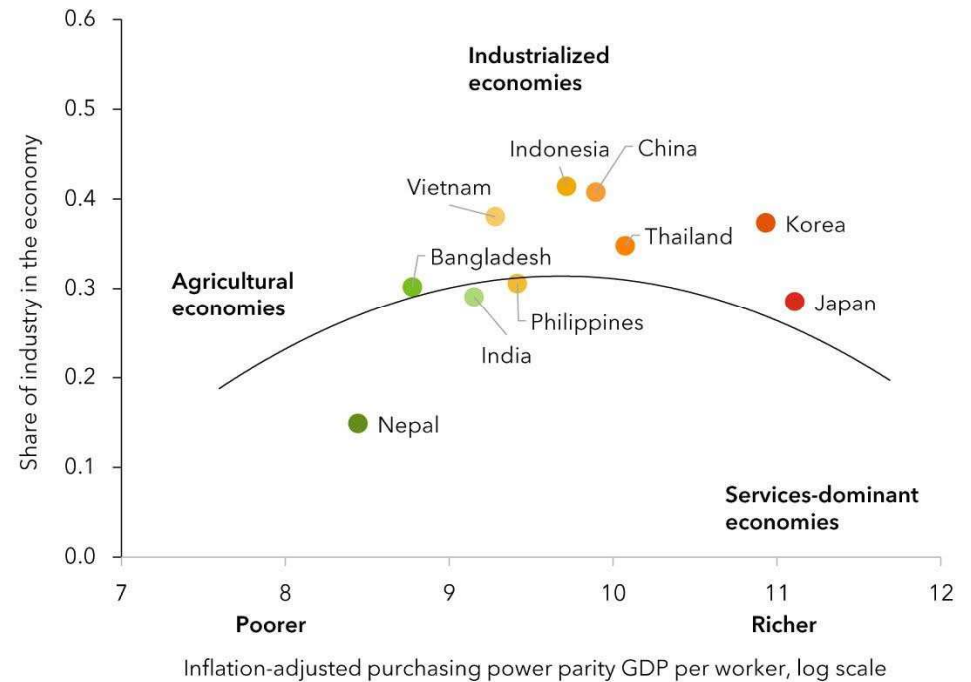


Source: McKinsey Global Institute

MEZŐGAZDASÁG – IPAR – SZOLGÁLTATÁS

As countries become richer, they move from agriculture to factory to services

Industry share of value added versus income level

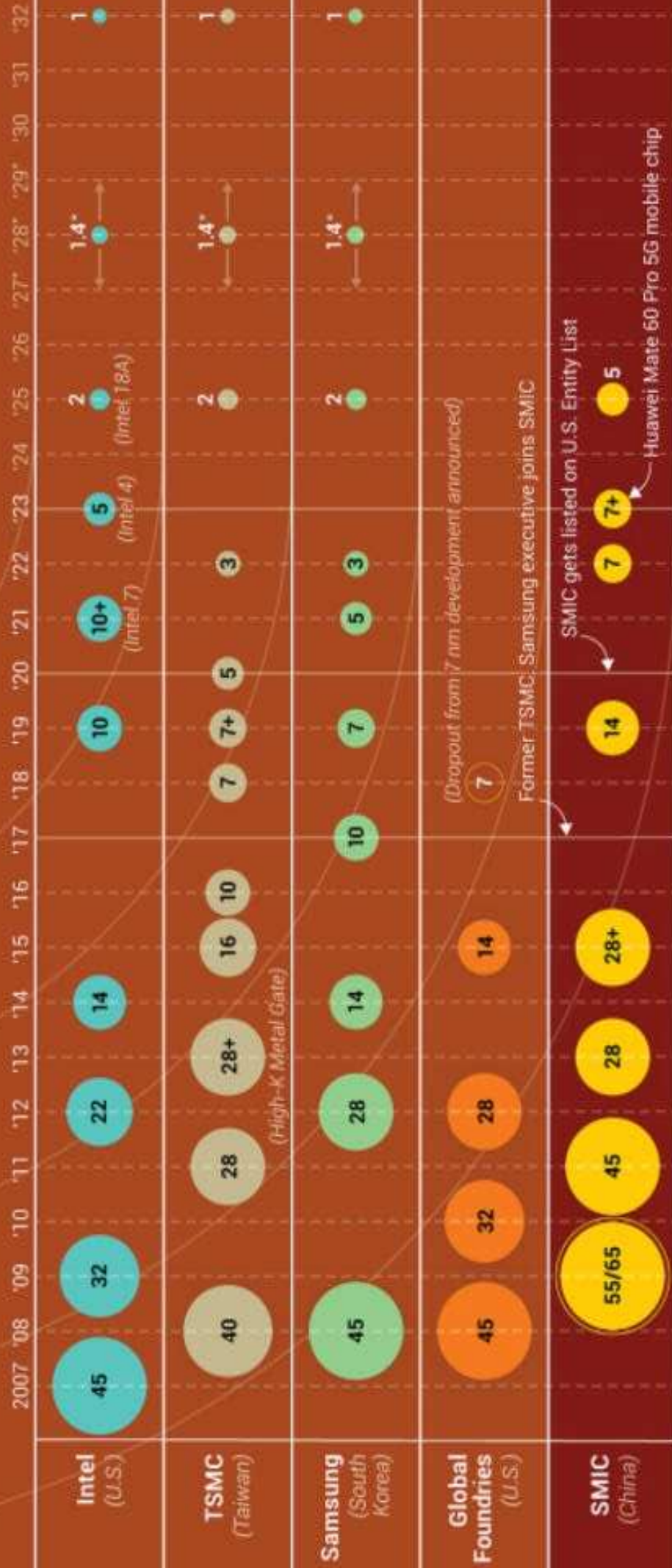


Sources: GGDC/UNU-WIDER Economic Transformation Database, Penn World Table version 10.1, and IMF staff calculations. Note: The curve represents global averages, estimated with 2018 data.

IMF

The nanometer race to make smaller logic chips

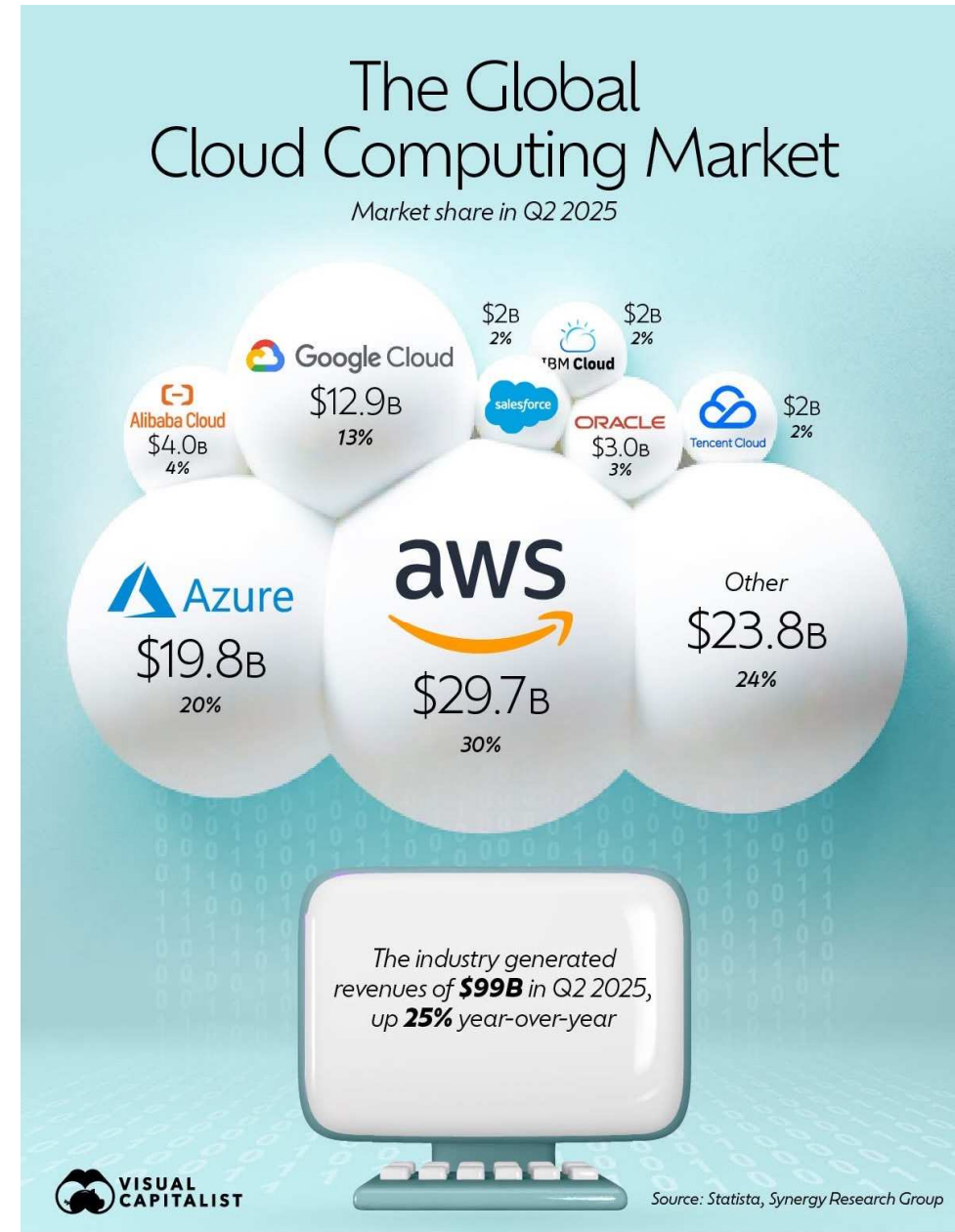
(Width between transistors on processor chips, such as CPU and GPU chips, by producer; the smaller the nm width, the more advanced)



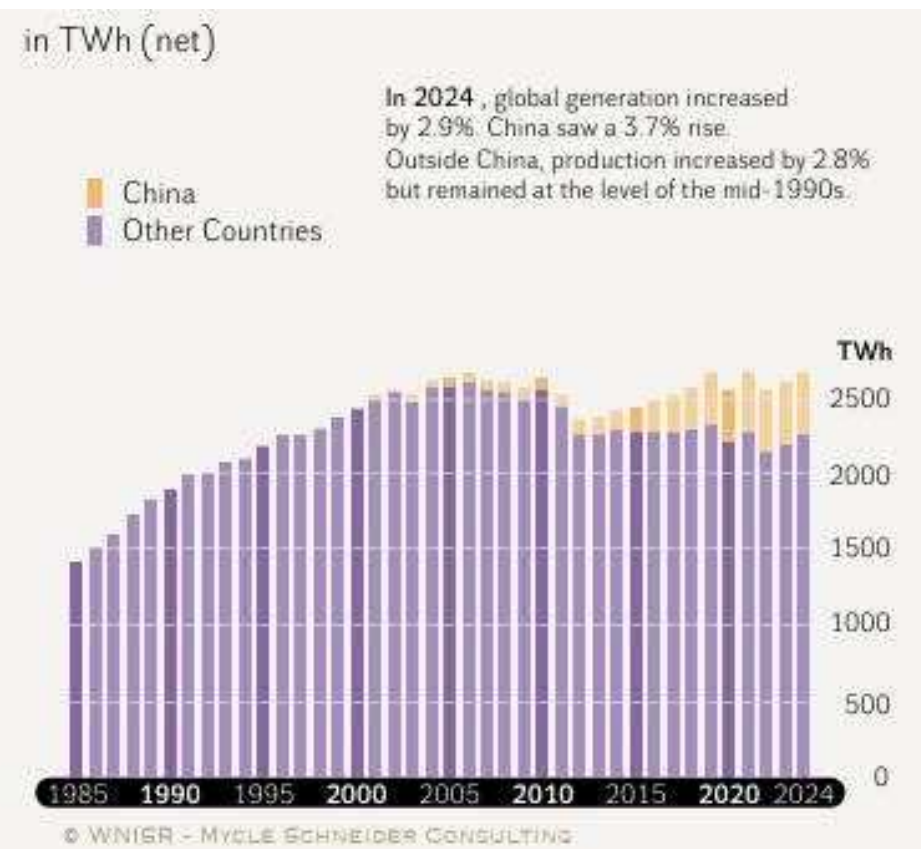
From 22 nm onwards, transistor structure changes from planar to 3D FinFET. Intel introduced first 3D transistor in 2012; 2024 onwards are projections. *Denotes enhanced. *Projected between 2027-29

Source: Company announcements, Nikkei Asia research

Hol vannak
azok a
felhők?

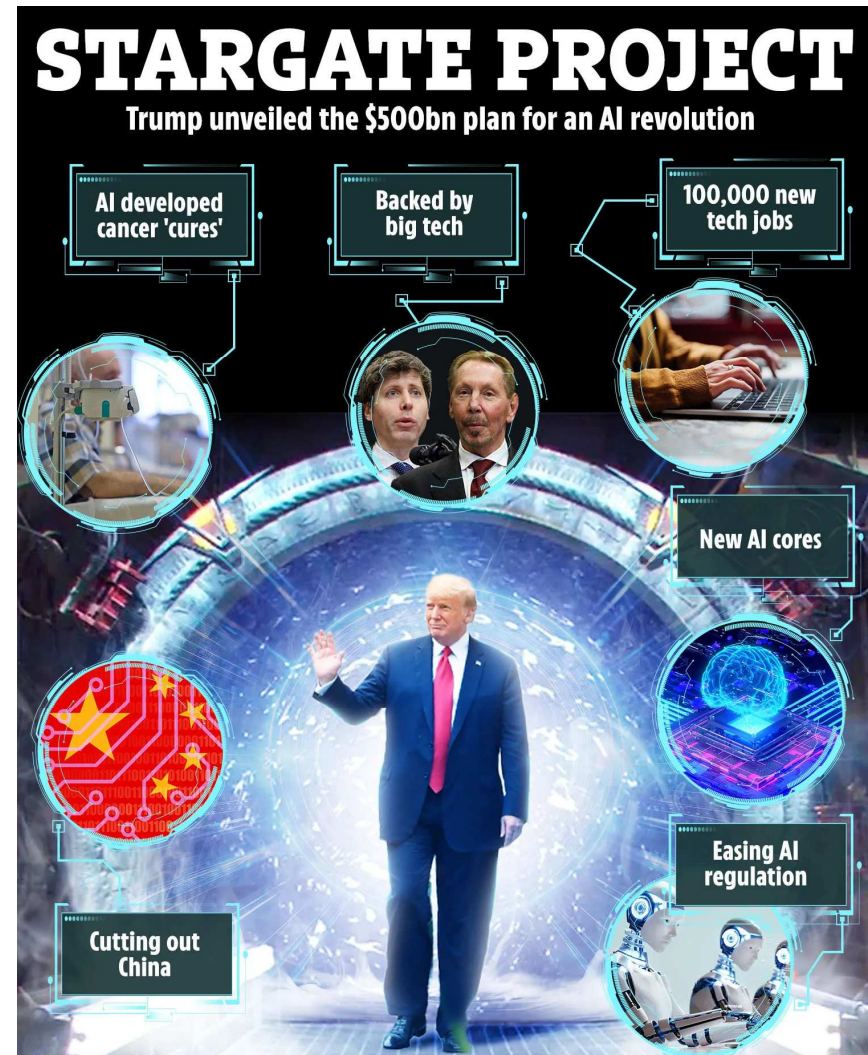


Nukleáris reneszánsz?



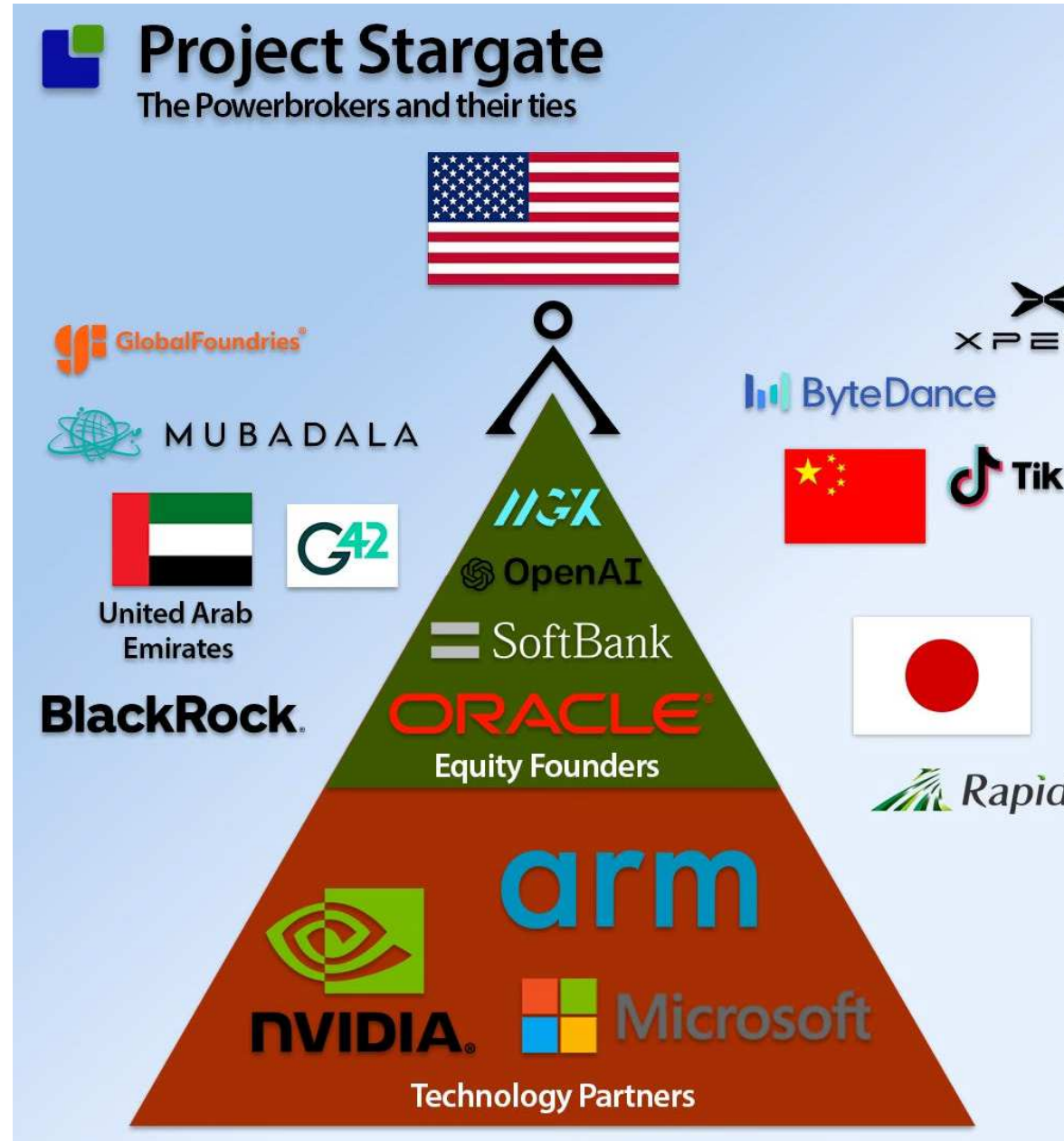
Sources: WNISR with IAEA-PRIS, 2025

Trump
nagy
dobása ?



A Stargate csapat

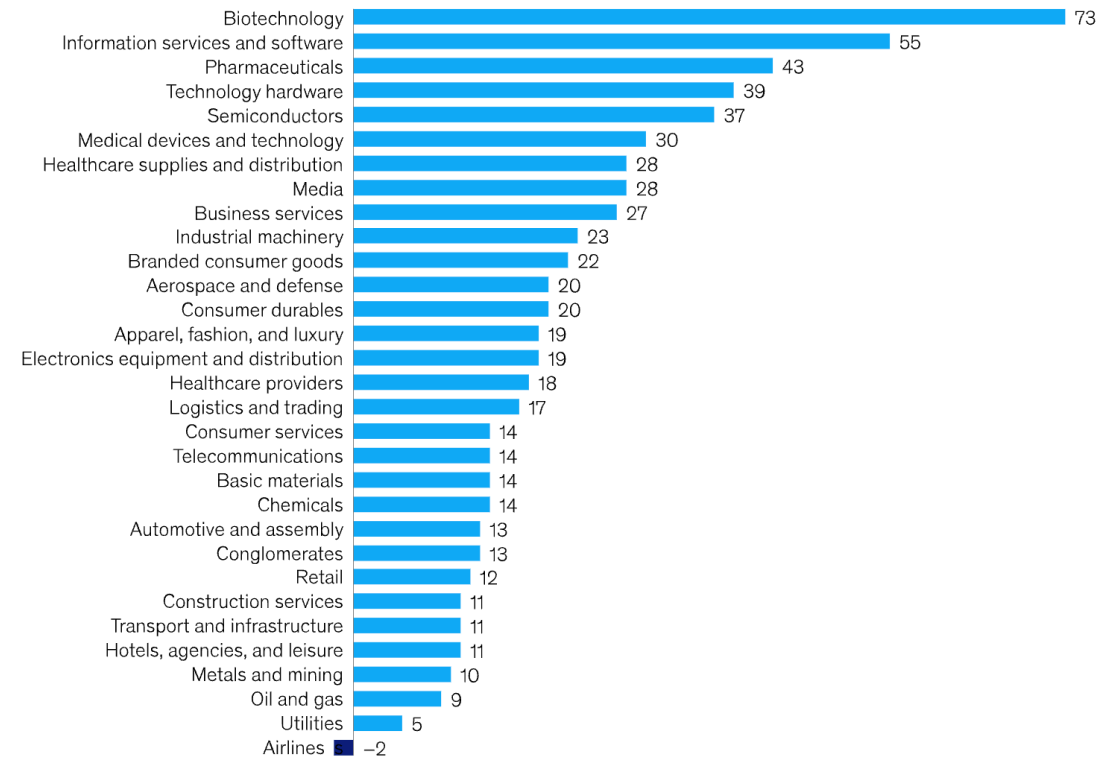
- Az EAE a világ egyik legautoriterebb országa
- Erős kapcsolataik vannak Kínával
- Honnan jön a SoftBank tőkéje? Nem kis részben Mohammed bin Salman



Kell-e versenyezni a
centrummal?
A centrummal kell-e
versenyezni?

Industries that are more innovative tend to deliver higher returns.

Median ROIC, by industry, 2018–23,¹ %



Note: The level of industry innovation is based on dates of patents for top 10 offerings and the rate of business model innovation.
¹ROIC by industry for US, Canada, and EU companies above \$1 billion revenue (inflation adjusted at any point in time from 1994 to 2023).
Source: Corporate Performance Analytics by McKinsey; McKinsey Value Intelligence Platform



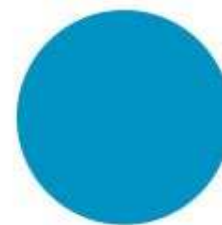








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