State of AI

Vom Katzenbild zum geopolitischen Spielball

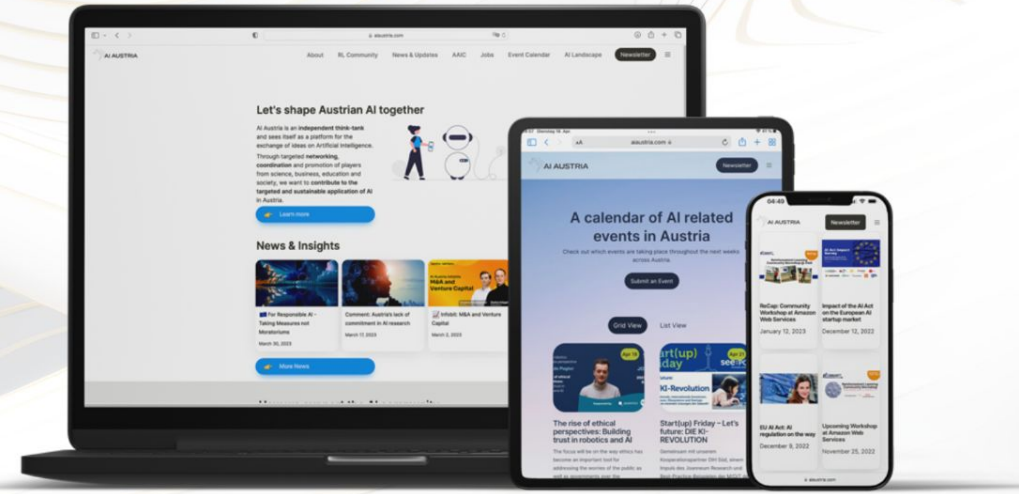
Vienna, November 7th, 2024

Clemens Wasner
@ClemensWasner
Clemens Wasner
www.AI-Landscape.at

AI AUSTRIA

Shaping the Future of AI in Austria

- Non-profit organisation , est. 2018
- Supports the AI ecosystem in Austria
- 100% independent



LANDSCAPE AUSTRIA 23

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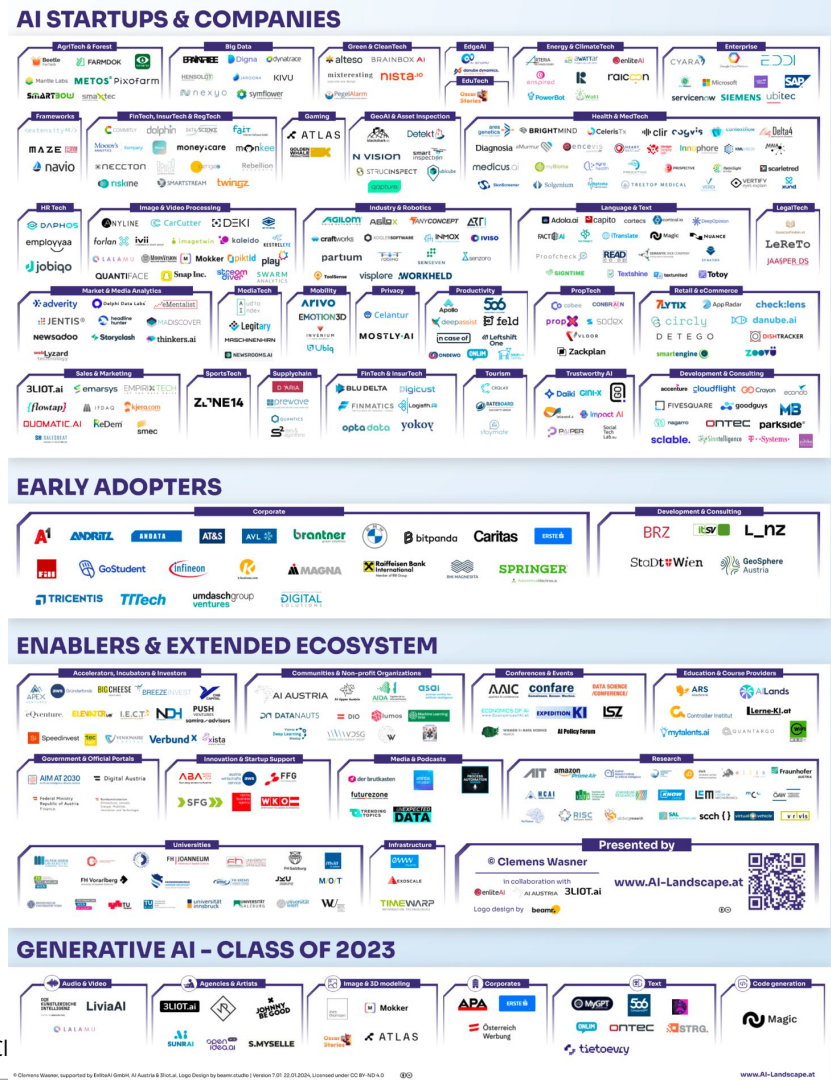


A brief look back 👀

2012

2016

2017

2018

2012

2016

2017

2018

2012

2016

2017

2018

TECHNOLOGY AND IIOT

AI Could Add $15 Trillion to Global Economy by 2030

Amid warnings of the economic disruption that robots and automation could unleash, researchers are finding that new technologies will help fuel global growth as productivity and consumption soar.

Bloomberg

JUN 29, 2017

50 National Artificial Intelligence Policies as at February 2020.
2012
2016
2017
2018
Argentina
Drafting the "National Plan of Artificial Intelligence". Falls under the Innovative Argentina 2030 Plan and the 2030 Digital Agenda.
Australia
November 2019, AI Roadmap focused on specialization in health, infrastructure and natural resources. Planning for an additional 161,000 AI specialists by 2030.
Austria
June 2019, 'Artificial Intelligence Mission Austria 2030 (AIM AT 2030)'. Outlines seven fields for which AI will be critical
Belgium
March 2019, 'AI 4 Belgium' launched and includes seven major objectives.
Brazil
Consultation period ended January 2020. Building a network of eight research facilities focused on artificial intelligence.
Canada
2017 federal budget announced five-year, $125m plan. Led by CIFAR. Research and talent focus. First National AI Strategy.
Chile
Expected April 2020. Ministry of Science, Technology, Knowledge, and Innovation created a committee of 10 experts to develop.
China
July 2017, China launched the most comprehensive AI strategy globally with 2030 targets for a $1T RMB AI industry.
Colombia
November 2019, first draft issued for 'National Policy for Digital Transformation'. Medellin to become an AI & Robotics Centre of Excellence.
Czech Republic
May 2019, 'National Artificial Intelligence Strategy of the Czech Republic' was launched.
Denmark
March 2019, Denmark announced the 'National Strategy for Artificial Intelligence' with four key objectives.
Estonia – Kratts Strategy
May 2019, Estonian AI experts, led by government CIO produced a roadmap, later adopted as the Estonian National AI Strategy in July 2019.
Finland
June 2019, 'Leading the Way into the Age of Artificial Intelligence' identified 11 key actions following May 2017 Steering Group announcement.
France
€1.5 billion plan announced in 2018 influenced by the 'Villani Report' to transform France into a global leader in AI.
Germany
€3 billion plan announced Nov 2018 with a dedicated AI strategy to make Germany & Europe a global leader in AI.
Hungary
October 2019, Hungary announced an AI Action Plan, the first pillar of a national AI strategy, expected in 2020.
India
June 2018 working paper on using AI to ensure social growth, inclusion and positioning the country as a leader in AI.
Indonesia
Indonesia Artificial Intelligence Society (IAIS) inaugurated under Smart Indonesia in October 2019. National Strategy expected in 2020.
Ireland
Irish Economic Development Agency led process. AI Master program launched in 2018 and is 100% industry driven.
Israel
Innovation Authority, tasked with AI policies, has warned that a strategy is needed to prevent falling behind.
Italy
March 2018, AGID released a White Paper called "AI at the service of citizens," which was edited by the AI Task Force.
Japan
March 2017, Japan's AI policy, the 'Artificial Intelligence Technology Strategy', was announced second only to Canada with 'Society 5.0'.
Kenya
January 2018, government announced task force to create a five-year strategy on national use of emerging technologies.
Lithuania
April 2019, Artificial Intelligence Strategy announced "to modernize and expand the current AI ecosystem and ensure that the nation is ready"
Luxembourg
May 2019, launched 'Artificial Intelligence: a strategic vision for Luxembourg'.
Malaysia
2018, Malaysia revealed a National Artificial Intelligence Framework expanding the National Big Data Analytics Framework.
Malta
October 2019. 'A Strategy and Vision for Artificial Intelligence in Malta 2030' Malta.ai launched and aspiring to be the 'Ultimate AI Launchpad'.
Mexico
June 2018, 'Towards an AI Strategy in Mexico: Harnessing the AI Revolution', serves as a foundation for building full AI strategy.
Netherlands
November 2018. AINED published a roadmap for developing a full national strategy.
New Zealand
May 2018, AI Forum of New Zealand, released "Artificial Intelligence: Shaping a Future New Zealand."
Norway
January 2020, Norway issued its National Strategy for Artificial Intelligence.
Pakistan
Presidential Initiative for Artificial Intelligence launched December 2018, focused on training beginners in AI and advanced technology.
Philippines
Nov 2019. AIM, Aboitiz School of Innovation, Technology and Entrepreneurship (ASITE) appointed to craft an AI roadmap.
Poland
November 2019, 'Assumptions for the AI strategy in Poland' as an action plan towards developing an AI strategy.
Portugal
February 2019, "AI Portugal 2030", seeks strengthen economic growth, scientific excellence, and human development using with AI.
Qatar
October 2019, National AI Strategy as a blueprint produced by Qatar Computing Research Institute (QCRI).
Russia
October 2019, Russia published its National Strategy for the Development of Artificial Intelligence by 2030.
Saudi Arabia
September 2019. Royal decree to establish an AI center, to align with the Kingdom's Vision 2030 program.
Singapore
May 2017. AI Singapore is a five-year, S$150 million national program launched in to enhance Singapore's capabilities in AI.
South Africa
Intsimbi Future Production Technologies Initiative" launched in 2018 with aim to advancing manufacturing sector.
South Korea
May 2018, five-year AI development plan launched with $1.95B budget.
Spain
March 2019, the Spanish Ministry of Science, Innovation and Universities launched the RDI Strategy in Artificial Intelligence.
Sweden
National Approach for Artificial Intelligence launched in May 2018.
Switzerland
An Artificial Intelligence (AI) expert group has published its recommendations for a Swiss AI strategy.
Thailand
Thailand's Digital Economy and Society (DES) Ministry has drafted the country's first artificial intelligence (AI) ethics guidelines.
Tunisia
AI Task Force and Steering Committee to develop a national AI strategy. The strategy was scheduled to be published in the first quarter of 2019.
United Arab Emirates
October 2017 announced strategy. First country to create a Ministry of AI and first in the Middle East to launch an AI strategy.
United Kingdom
April 2018, 'Sector Deal' announced. $1.24B funding as part of the UK's larger industrial strategy.
United States of America
February 2019 by Executive Order to promote and protect AI technology. AI.gov launched Mar 2019. Followed by the National Artificial Intelligence Research and Development Strategic Plan.
Vietnam
Ministry of Information and Communications developing a broad AI strategy.
Source: HolonIQ and source government strategy and policy papers.
www.holoniq.com

Expectations – Autonomous Driving

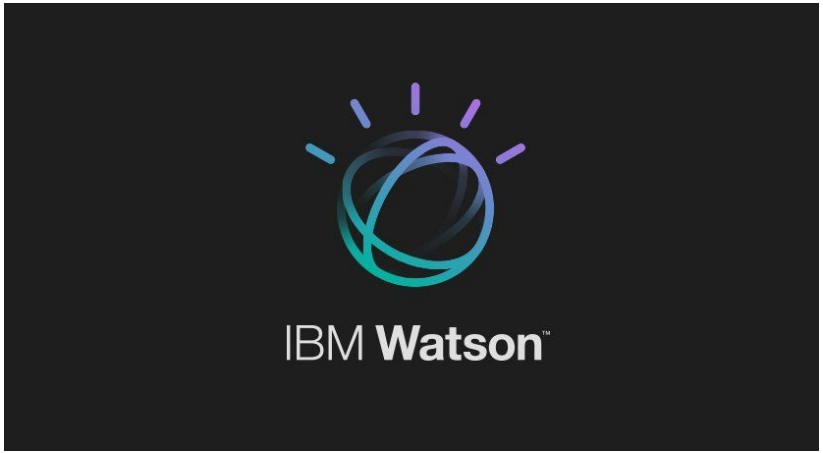
Expectations – Voicebots

TL, DR: The last 10 years in one picture

Applied AI

First Wave of AI

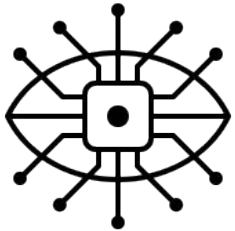
2012 - 2021



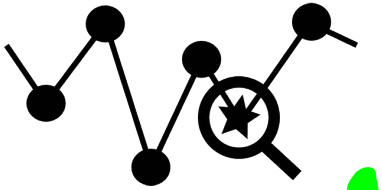
First Wave of AI
Technology view

Forecasting & time series analysis

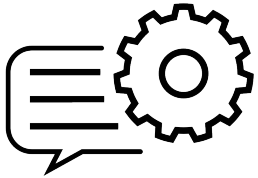
Computer Vision



Anomaly detection

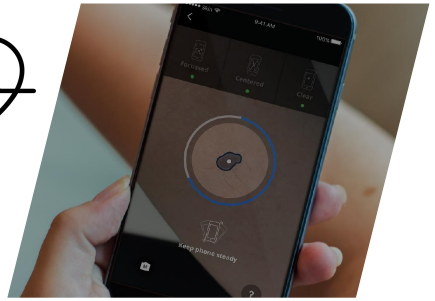


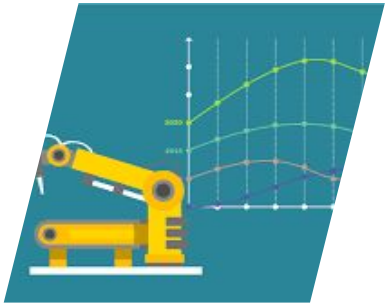
Natural Language Processing

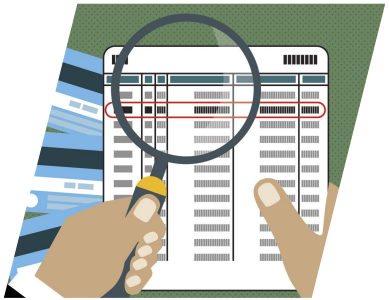


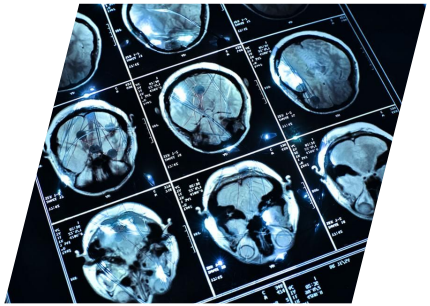
Speech Processing & Chatbots

State of AI
Cross-sector view



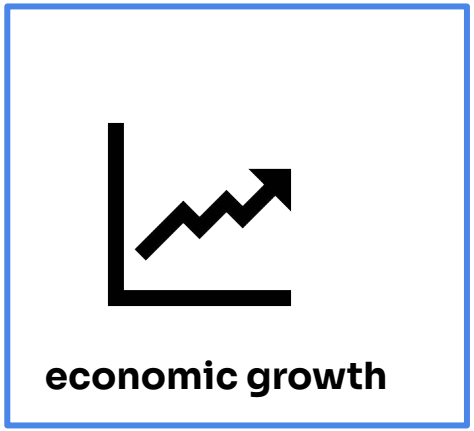




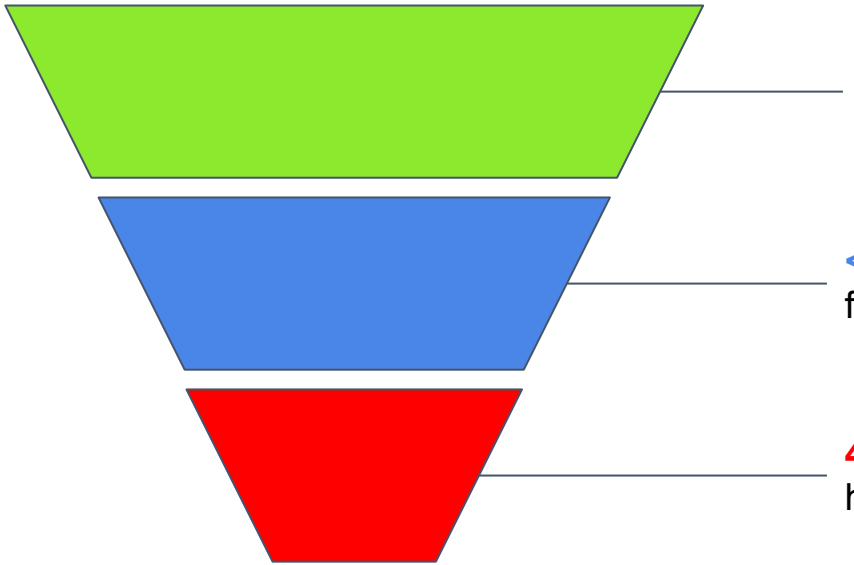


First Wave of AI = B2B Pattern Matching

First Wave of AI
Macro economic view



Status of global adoption
Example Retail (Google Survey)

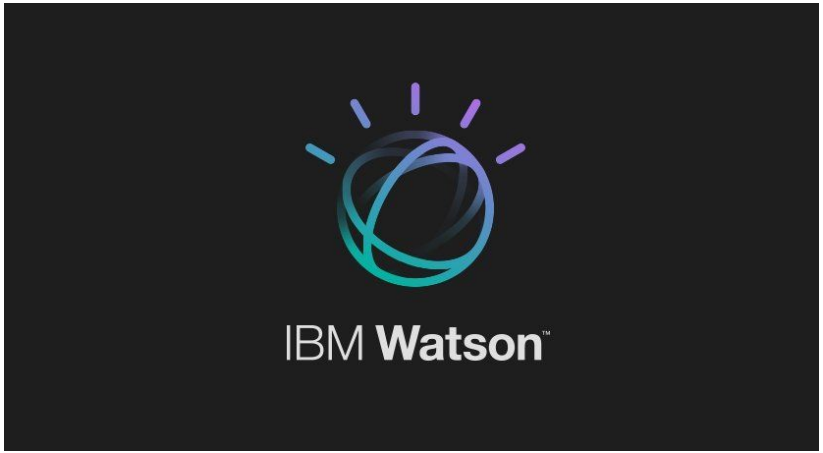


60% of retailers have more than than 20 pilots in progress

<45% of pilots are converted into full implementation

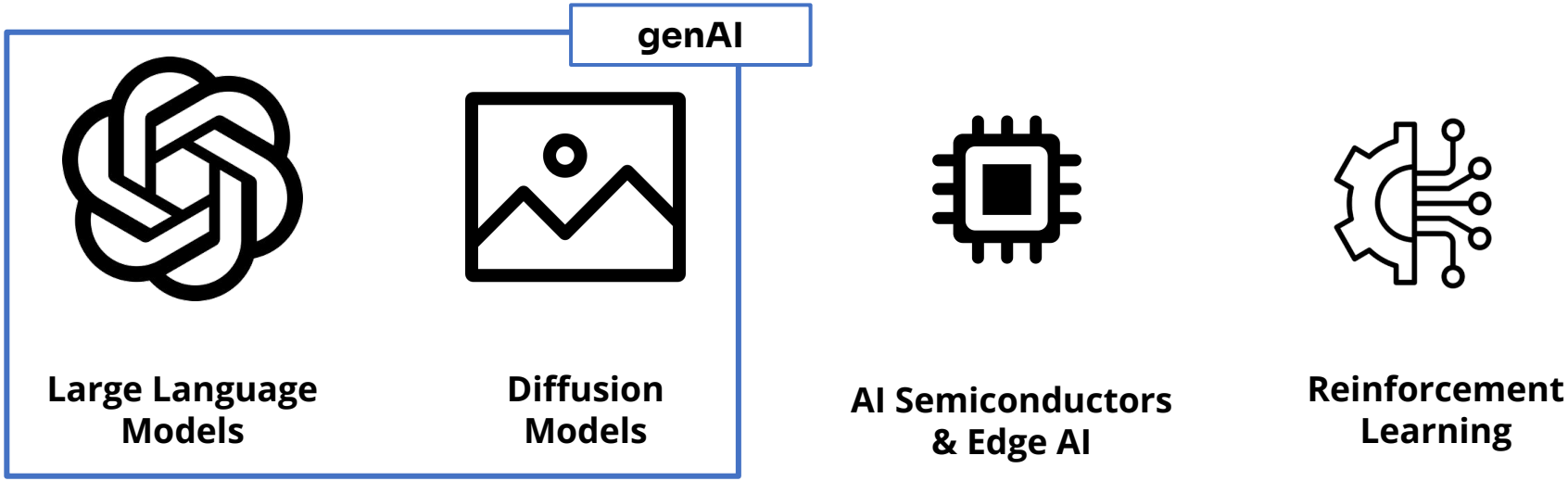
40% of full implementations are high value use-case

First Wave of AI
2012 - 2021



Second Wave of AI
since 2022

Second Wave of AI
Technology view

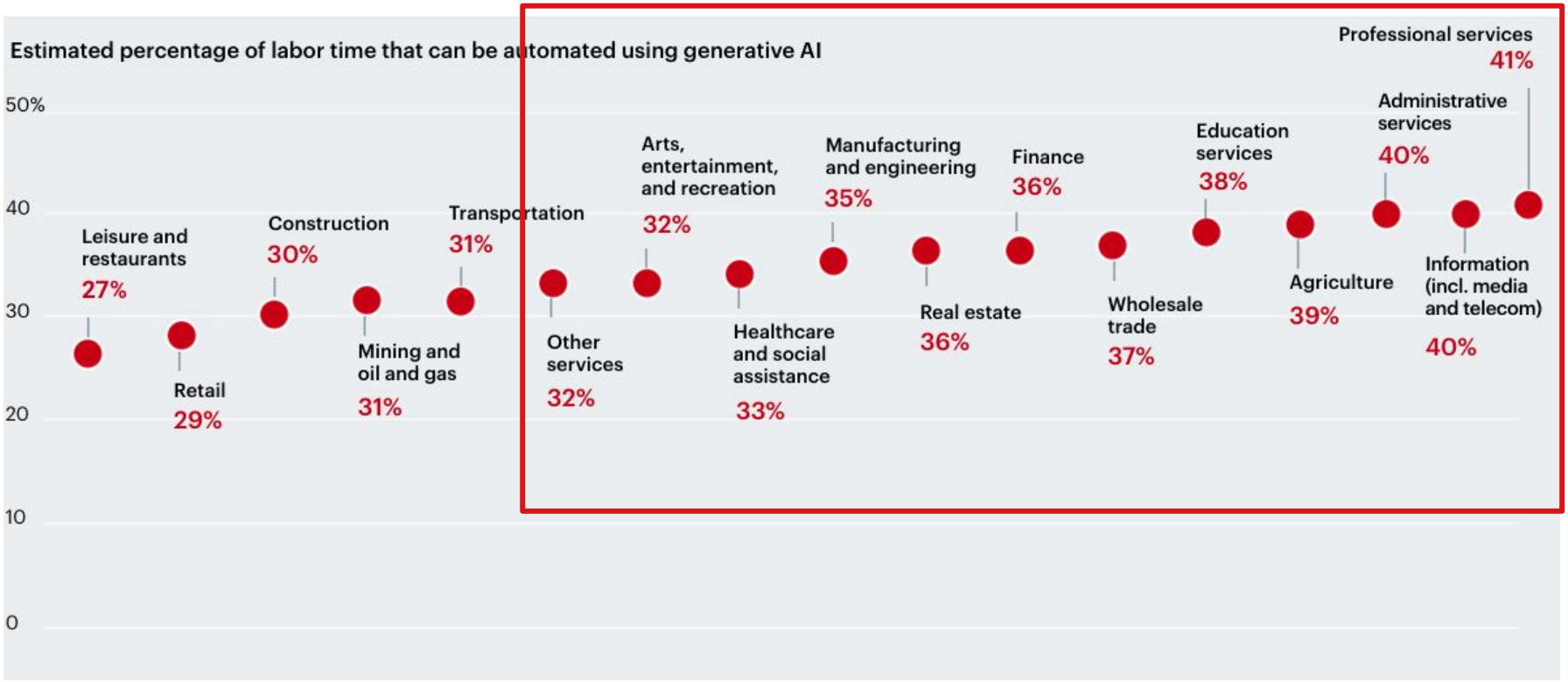


Second Wave of AI
ChatGPT already in Top15 of most visited websites

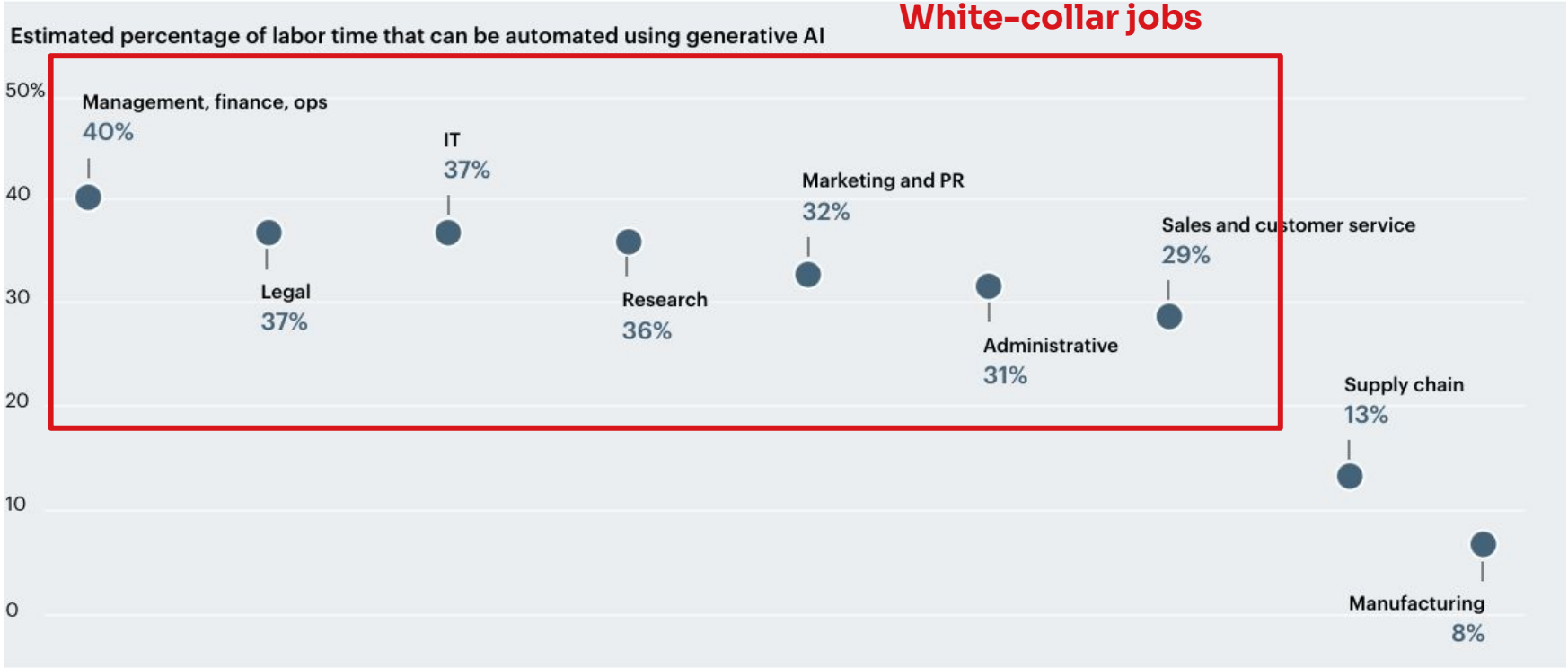
Website	Domain name	Ranking		Type	Company	Country
		Similarweb (May-24)	Semrush (May-24)			
Google Search	google.com	– 1	– 1	Search engine	Google	United States
YouTube	youtube.com	– 2	– 2	Video-sharing platform	Google	United States
Facebook	facebook.com	– 3	– 3	Social network	Meta	United States
Instagram	instagram.com	– 4	▲ 5	Social network	Meta	United States
Baidu	baidu.com	5 (▲)1	–	Search engine	–	China
Wikipedia	wikipedia.org	6 (▲)1	▲ 4	Reference work	Wikimedia Foundation	United States
X (formerly Twitter)	x.com	7 (▼)2	▲ 6	Social network	X Corp.	United States
Yahoo!	yahoo.com	– 8	▲ 11	Web portal	Yahoo!	United States
Yandex Search	yandex.ru	– 9	▲ 15	Search engine	Yandex	Russia
WhatsApp	whatsapp.com	– 10	▲ 10	Instant messaging	Meta	United States
XVideos	xvideos.com	12 (▼)1	– 9	Pornography	–	Czech Republic
ChatGPT	chatgpt.com	13 (▲)33412	–	Artificial intelligence	OpenAI	United States
TikTok	tiktok.com	14 (▼)2	– 16	Social network	ByteDance	China
Reddit	reddit.com	15 (▼)2	▲ 8	Social network	–	United States

Source: en.wikipedia.org/wiki/List_of_most-visited_websites

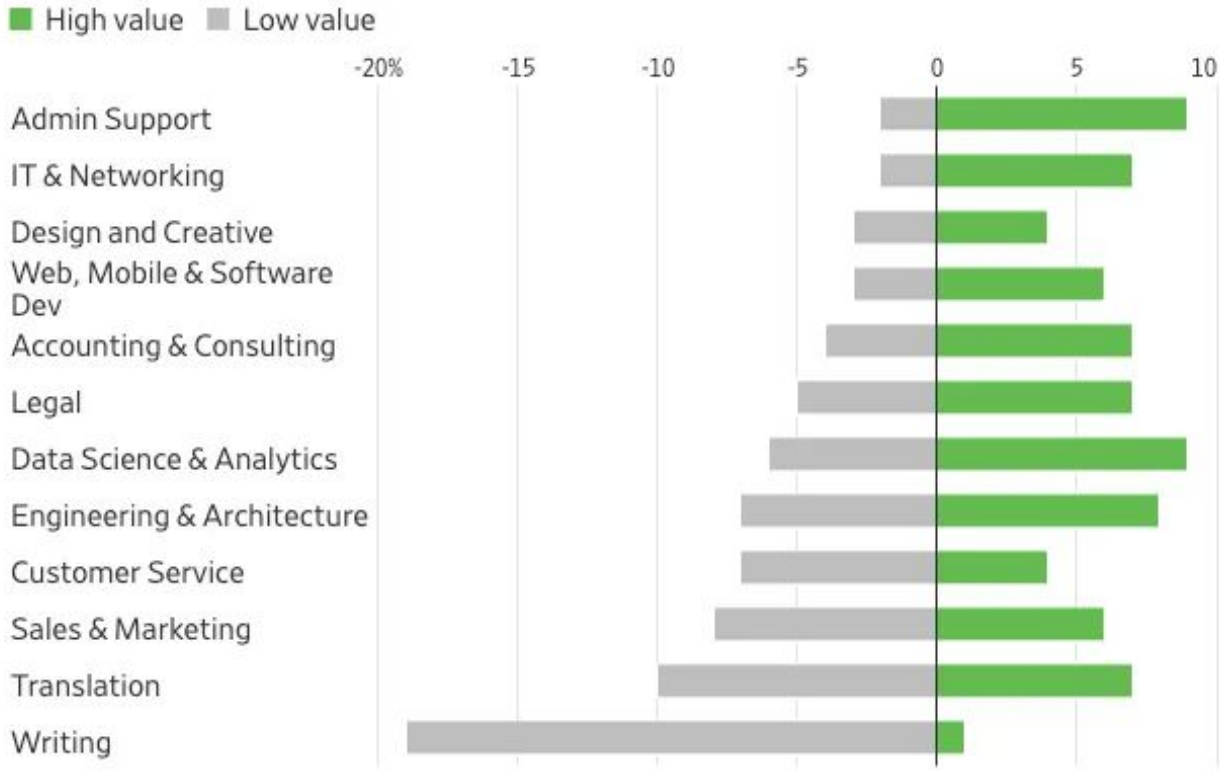
Impact of GenAI
by sector / industry



Impact of GenAI
by function



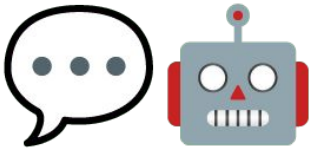
Impact of GenAI by task type
%-change in pay since ChatGPT launched



GenAI is **increasing demand and pay** for higher skilled jobs.

GenAI is powerful but quirky –
it **works best when combined with a skilled human being**.

Second Wave of AI = Human-Like Interaction



First Wave of AI
2012 - 2021

€ 100.000+ AI model development cost, on top of implementation

6-18 months project duration

Team: PhDs in AI & machine learning + development team

Mostly applied in large corporates

Second Wave of AI
since 2022

€ << 100.000 for custom development

short project durations, measured in weeks

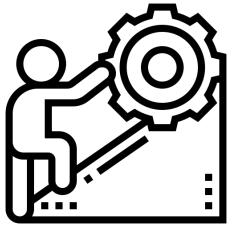
Developers + Consultants

Rising number of SME use-cases

AI Business

AI differs from traditional software

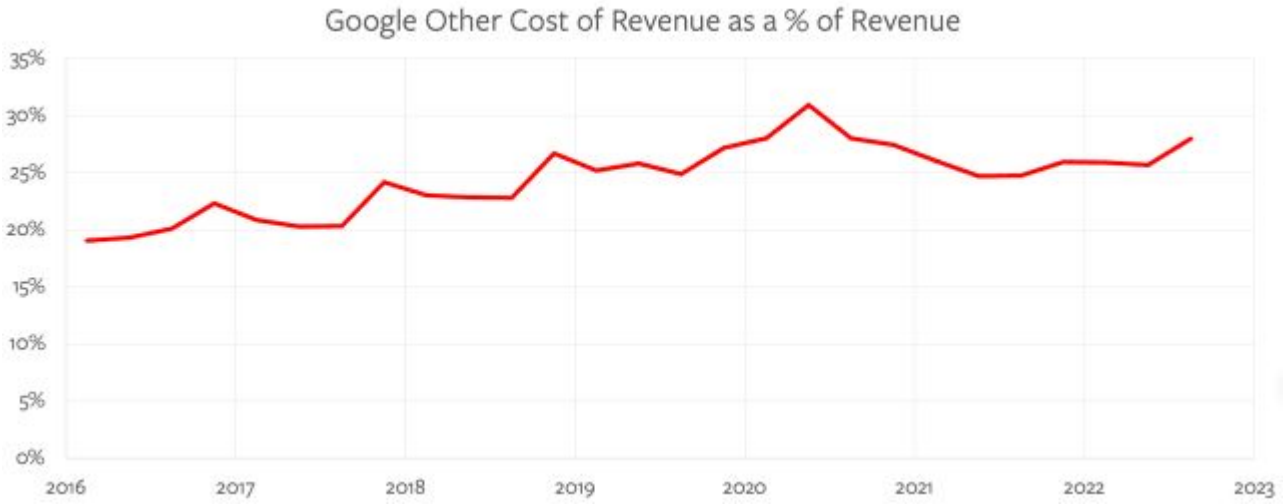
Lower gross margins



Scaling challenges

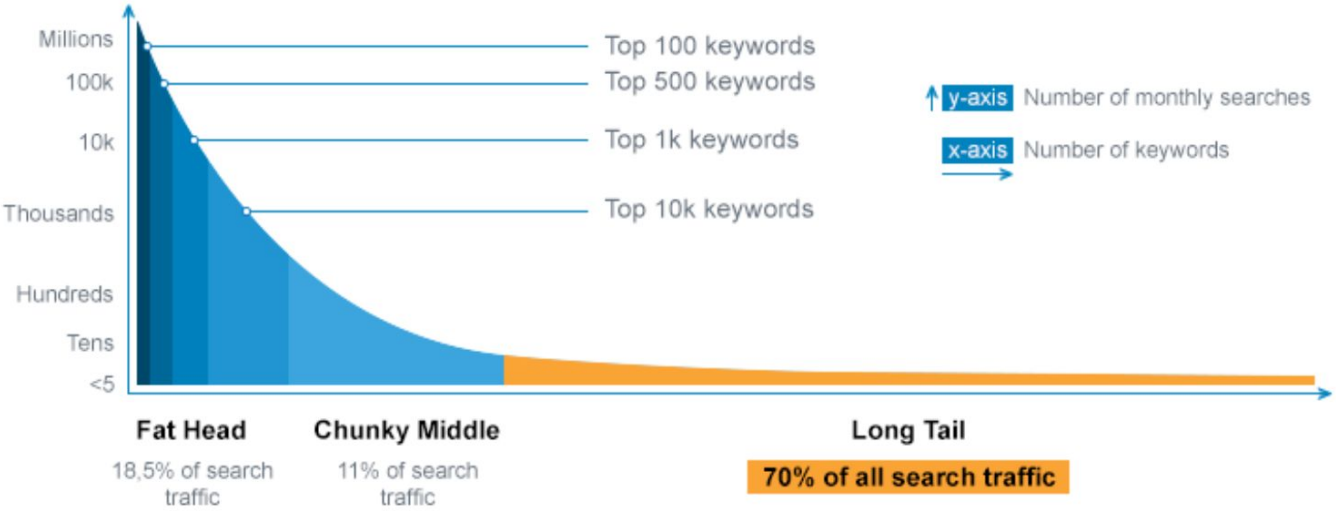
Weaker moats

AI led to 7+pp higher data center cost at Google



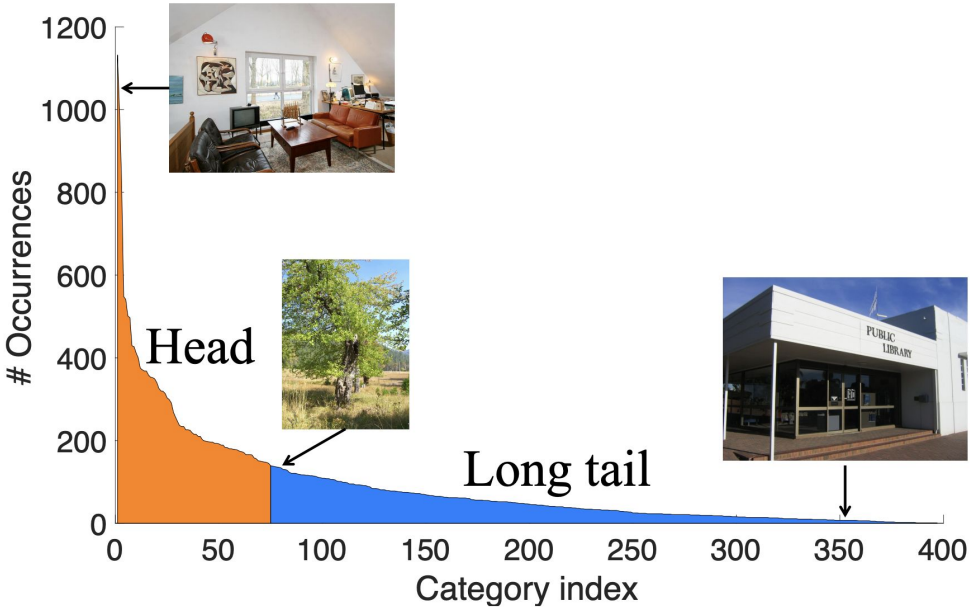
source: Stratechery, 26.10.2022

Long-tail distribution as a challenge for scalability



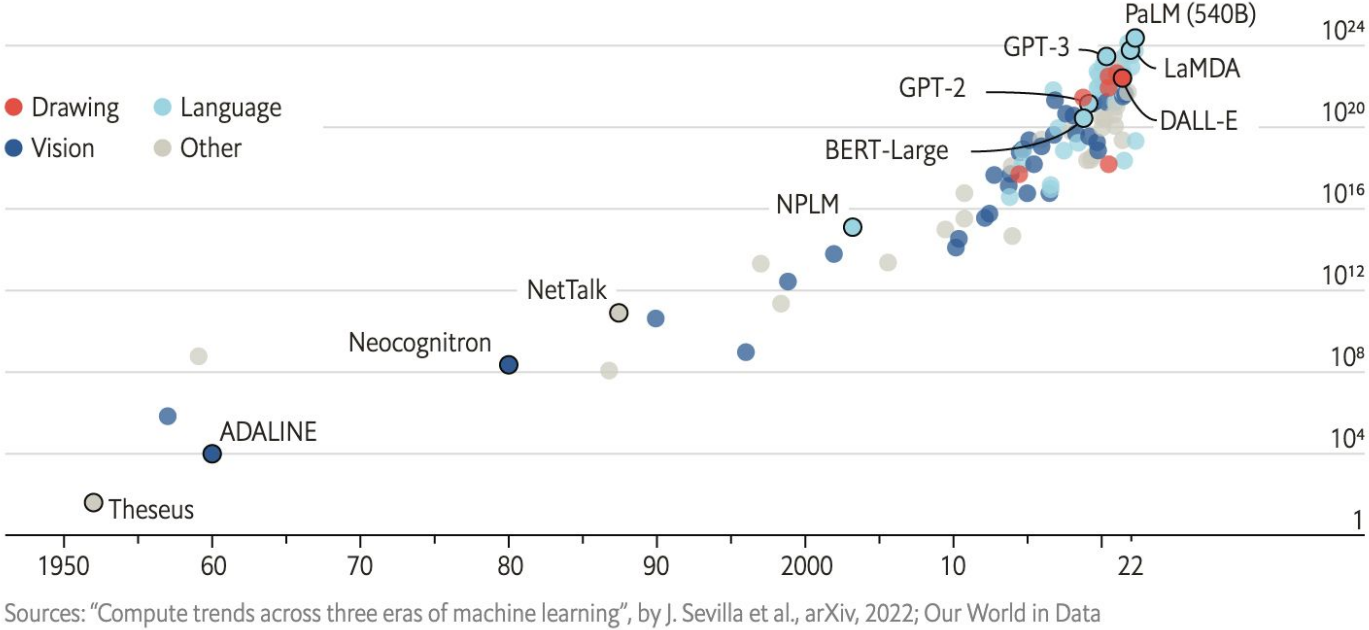
source: Bill Tancer via Hittail

...especially for AI models and datasets



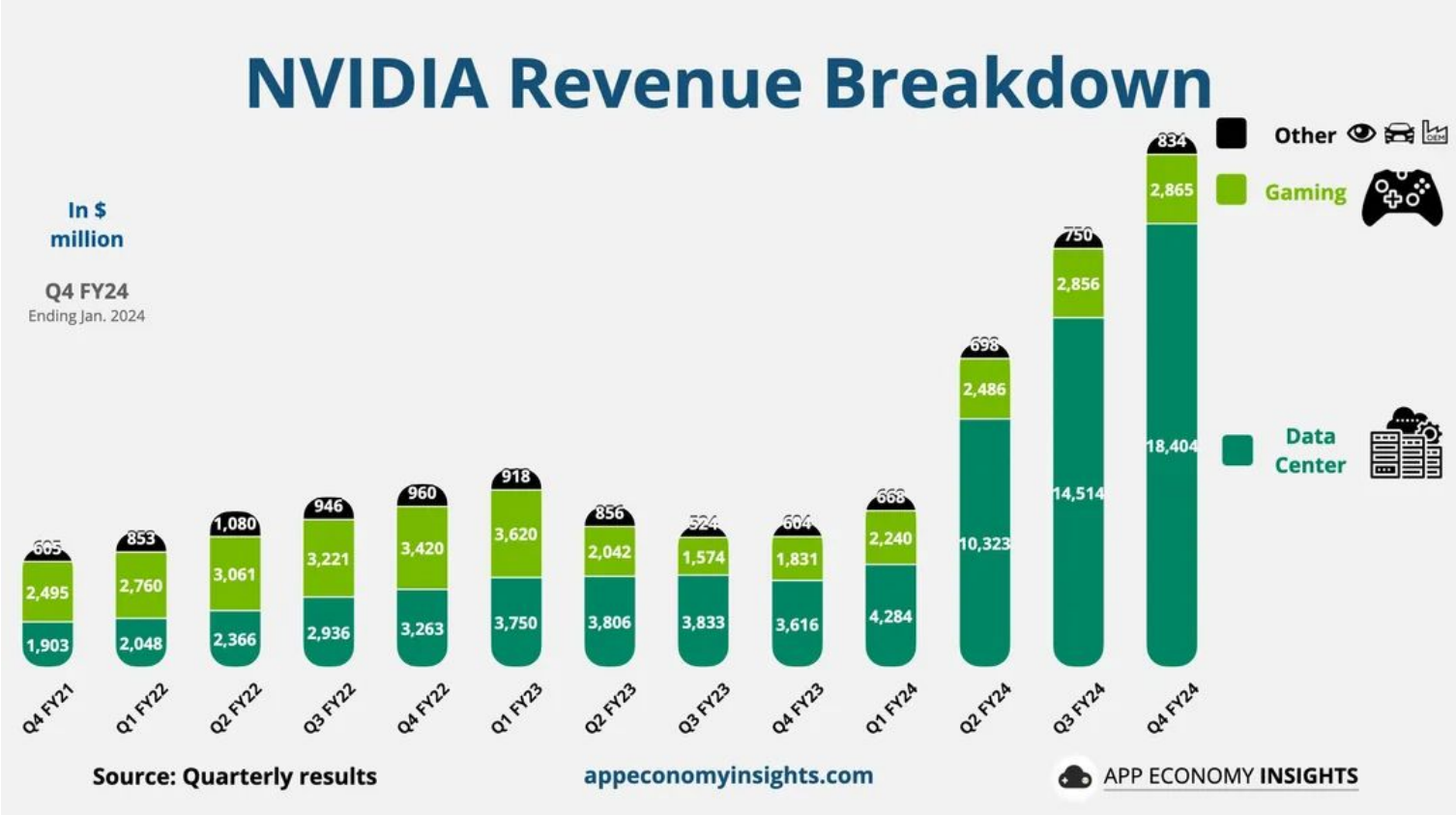
source: Wang et al 2017

Large AI models as a new business model?

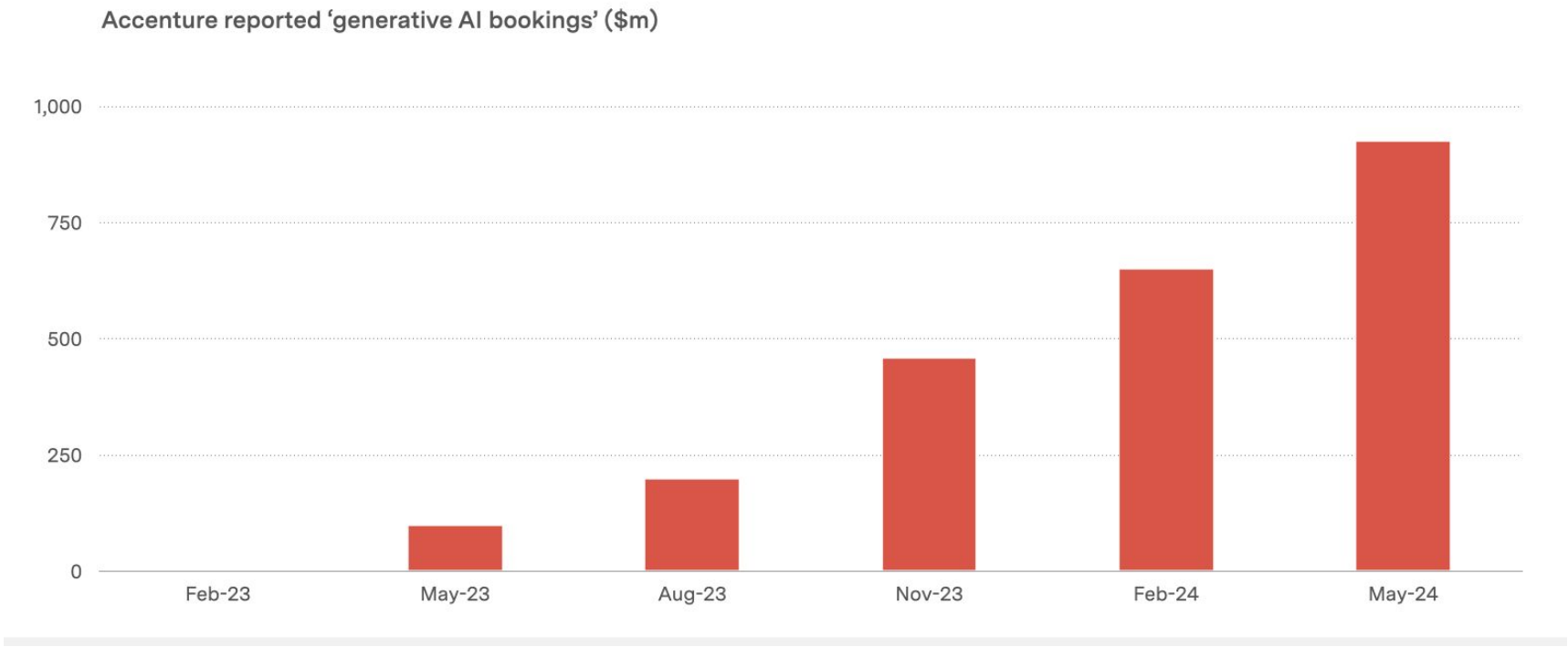


June 2022

Who profits from the current AI Boom?



Who profits from the current AI Boom?



AI Geopolitics

Chips

BBC

Regi

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US chip makers hit by new China export rule

1 September 2022

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Annabelle Liang
Business reporter

Capital

Technology

UAE-based G42 working with US to meet AI standards amid China concerns

By **Reuters**

August 1, 2024 12:32 PM GMT+2 · Updated 3 months ago

DUBAI, Aug 1 (Reuters) - UAE-based artificial intelligence company G42 is actively working with U.S. partners and the Emirati government to comply with AI development and deployment standards, amid concerns about its ties to China.

A spokesperson for the company told Reuters on Thursday that the firm will work with partners "to comply with the highest global standards" in AI, the first remarks from G42 since the UAE scuttled meetings between it and U.S. Congressional staffers in July.

Talent

Pressured to relocate, Microsoft's AI engineers in China must choose between homeland and career

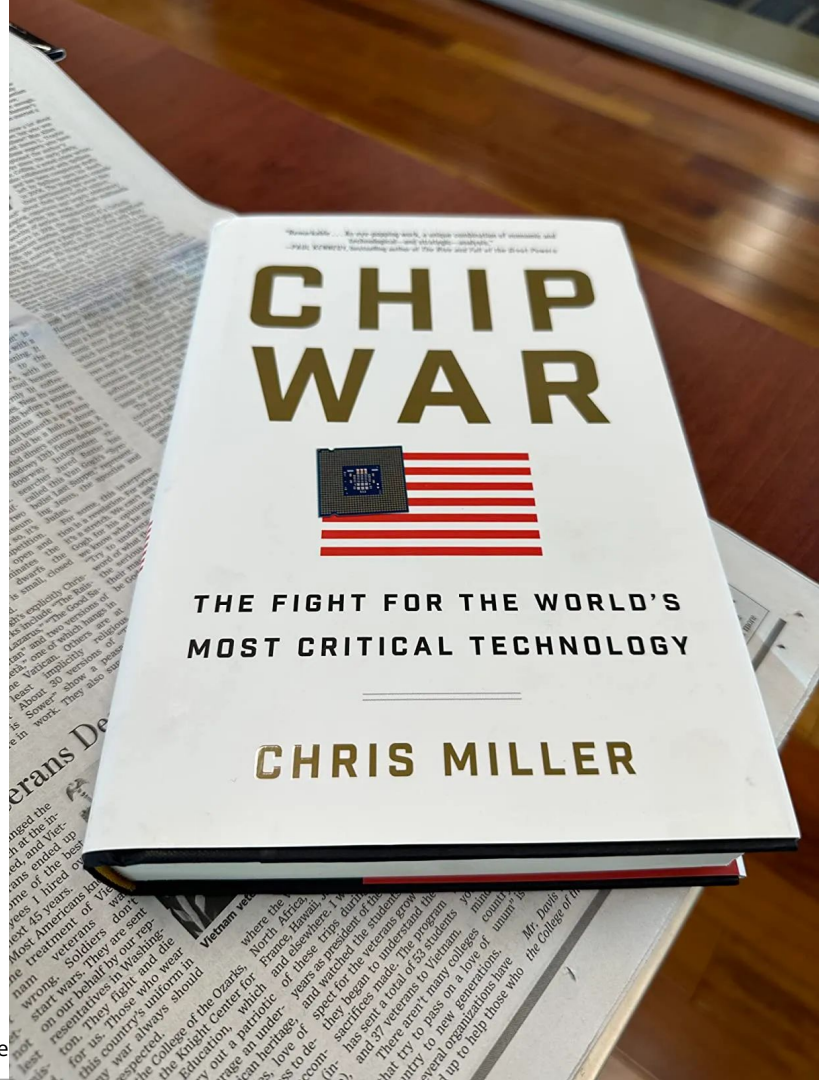
As geopolitical tensions grow, many employees have decided that a career with the Silicon Valley tech giant isn't worth giving up the comforts of home.

Policy Levers

Policy Tool	Description	Example
📦 **Export Controls**	Regulates export of strategic goods.	US export controls on semiconductors to China.
🚫 **Sanctions**	Blocks assets or bans transactions.	Global Magnitsky Sanctions.
💰 **Tariffs**	Taxes on imports/exports to protect industries.	US tariffs on $200B of Chinese imports.
🏭 **Industrial Policy**	Government support for key industries.	US CHIPS Act for semiconductors.
💼 **Investment Screening**	Reviews foreign investments for security risks.	CFIUS reviews on critical tech investments.

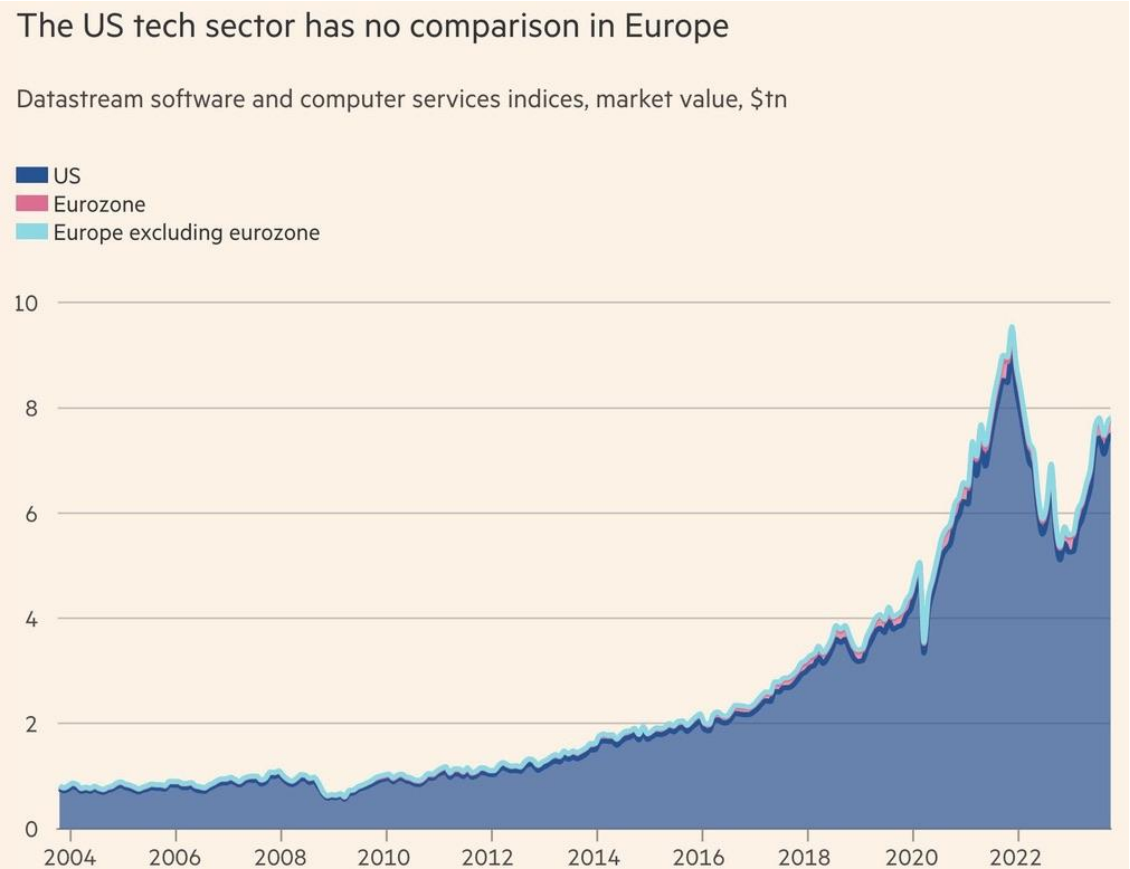
Why the Fuss?

- Dual use technology 🚀 & 📈
- Frontier for the next decades



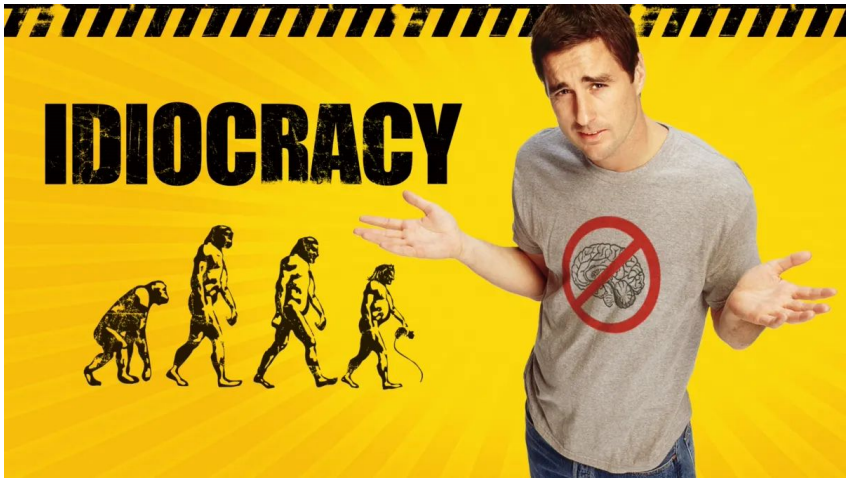
AI in Europe

Europe has no Tech Sector



What we feared

What we got



Thierry Breton
@ThierryBreton

Historic!

The EU becomes the very first continent to set clear rules for the use of AI 🇪🇺

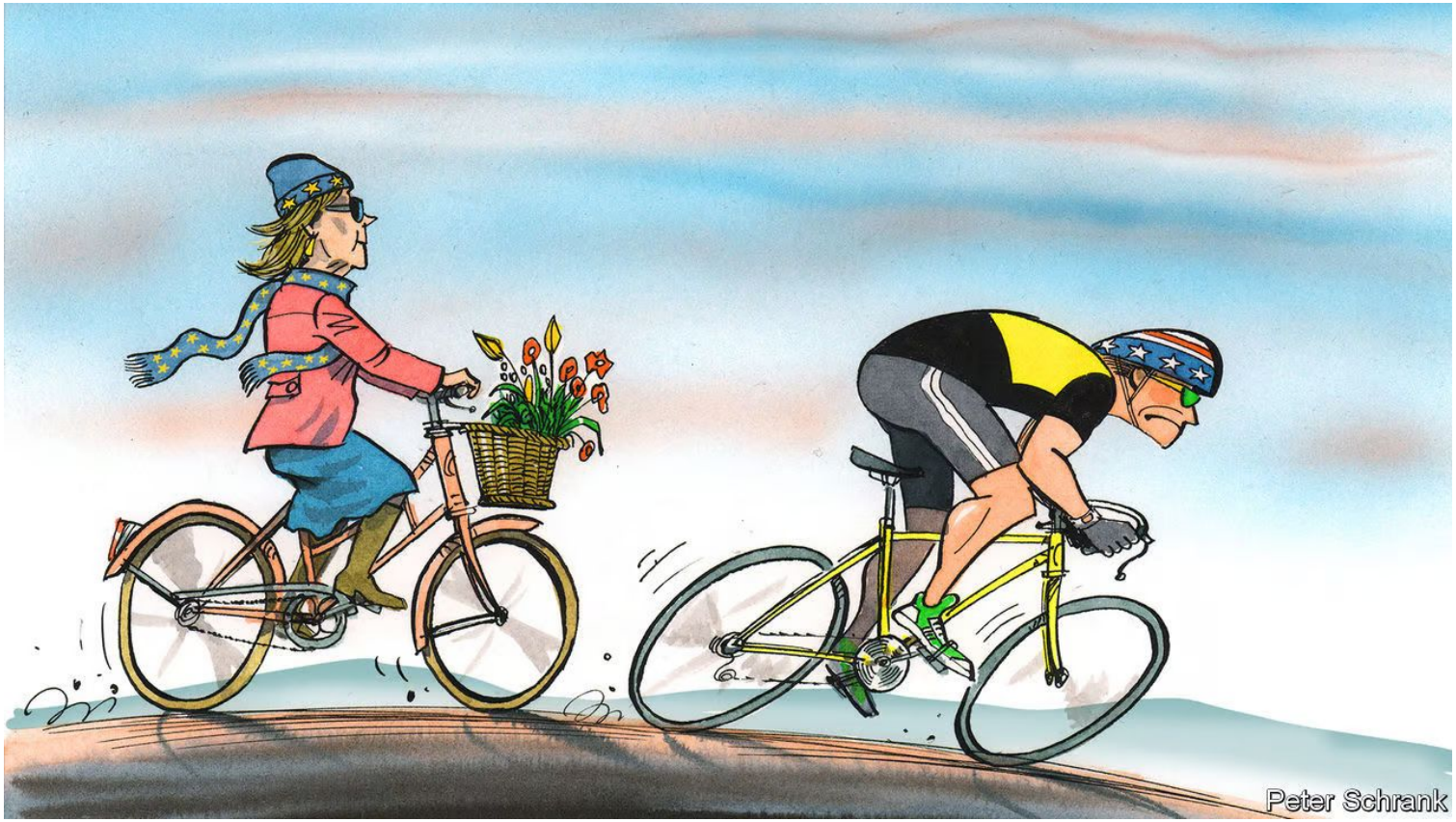
The #AIAct is much more than a rulebook — it's a launchpad for EU startups and researchers to lead the global AI race.

The best is yet to come! 👍

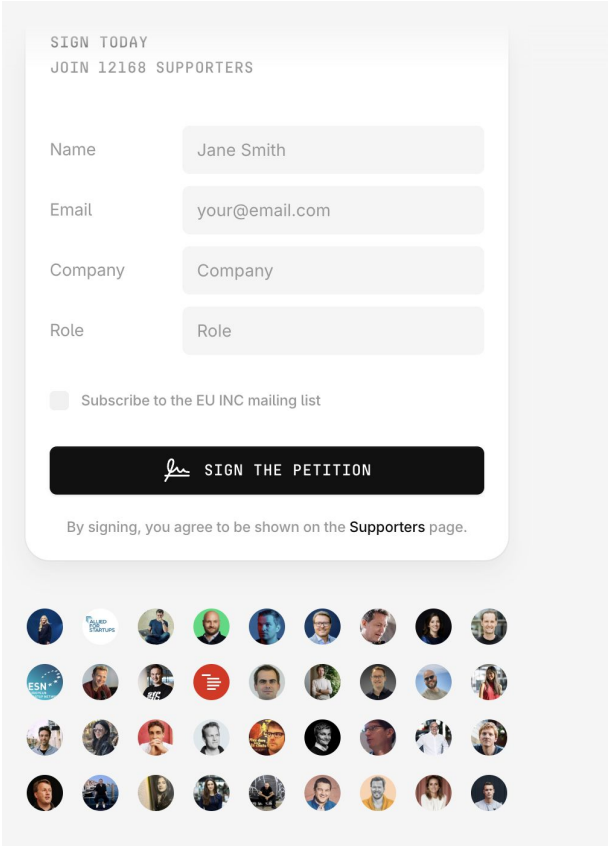
11:45 PM · Dec 8, 2023 · **7.8M** Views

TL, DR: Europe lost 20 years

- The EU and its members set the wrong priorities
- Tech & Defense strategy are non-existent
- Underdeveloped capital markets
- Overregulation and red tape
- Too few startups, most of them underfunded


Peter Schrank

How to change course? One petition at a time



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President at AI Austria

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