

Securitate informațională. Reglementări

Proiectul învățământului
superior din Moldova –
DATASEA

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UNIVERSITATEA TEHNICĂ
A MOLDOVEI

An aerial, top-down view of a large number of identical security cameras mounted on a light-colored concrete floor. The cameras are arranged in a somewhat regular, grid-like pattern, though not perfectly aligned. Each camera is a rectangular, boxy unit with a lens on the front, mounted on a black, adjustable bracket. The overall scene is monochromatic, with shades of gray and beige.

The challenges

Surveillance

Platformization

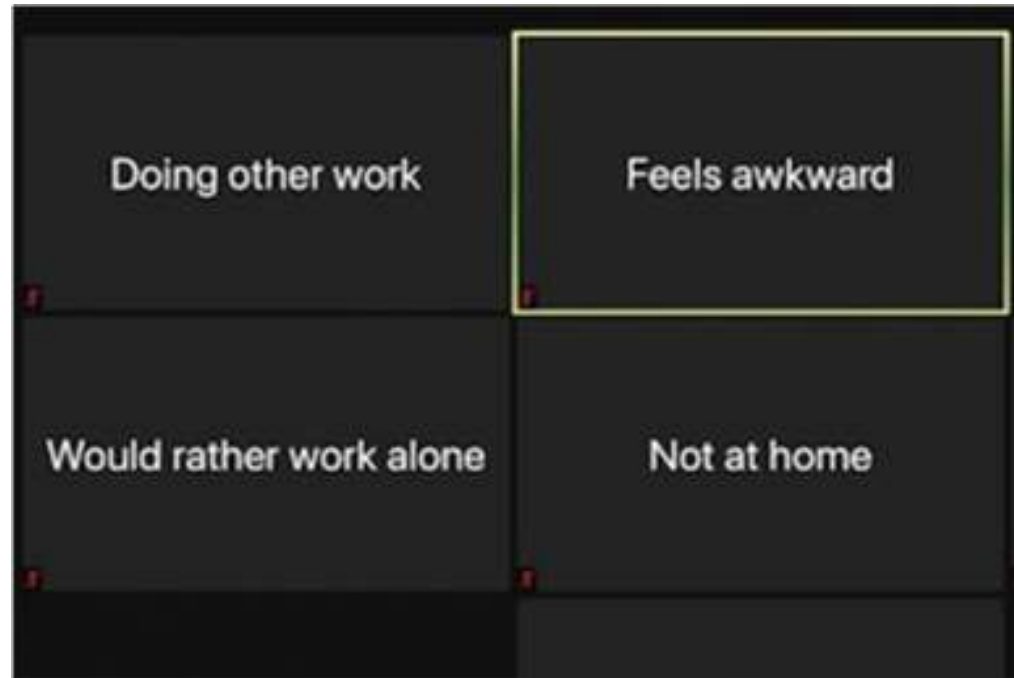
Degradation of autonomy

Who has power over the Internet?

- Surveillance capitalism powered by Big Data
- Transition from a democratic internet to a surveillance internet
- Platform capitalism with strong asymmetries of information and power
- Loss of autonomy for individuals and SMEs
- Distortions of free markets and free communication



Unseen online surveillance



Data capitalism



(Invisible) surveillance

- Personal data is extracted at scale without meaningful consent
- Digital profiling used for targeting by
 - BigTech relying on AdTech models
 - Data brokers: Acxiom, Epsilon Data Management, Oracle America Inc., Equifax Information Services, Experian, and CoreLogic
- Addiction, filter bubble, polarization, amplification of hate

Platformization

- Tech Giants disempower competition
 - Google, Apple, Meta/Facebook, Amazon, Microsoft (GAMAM)
- Extraction of monopoly-type rents
- Discouragement of innovation through buyoffs
- Digital feudalism
- Amplification of (dis)advantage through ML/AI products
 - Power goes to the biggest players



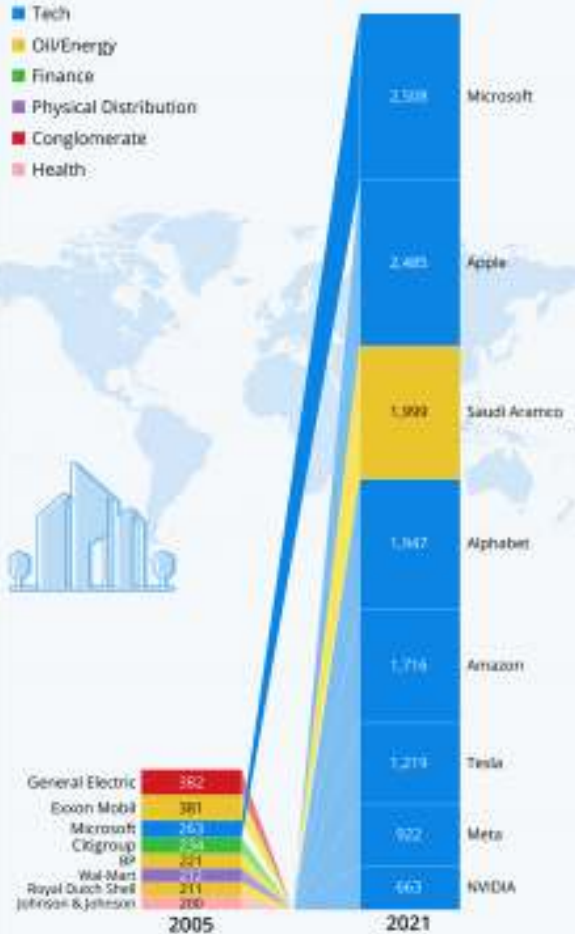
Big Tech vs Big Oil

- Industrial Revolution: hacking and exploiting nature
- AI/ML Revolution: hacking and exploiting ourselves

([Source](#))

The Age of the Tech Giants

Companies with the world's largest market capitalizations in 2005 and 2021 (in billion U.S. dollars)*



* As of March 31, 2005 and November 4, 2021.
Sources: Financial Times, Yahoo! Finance



statista

Source,
2021

America's Richest Men and Women in 2023

Net worth of the richest people in the United States*



* Net worths based on stock prices and exchange rates from Sept. 8, 2023.
Source: Forbes 400 list

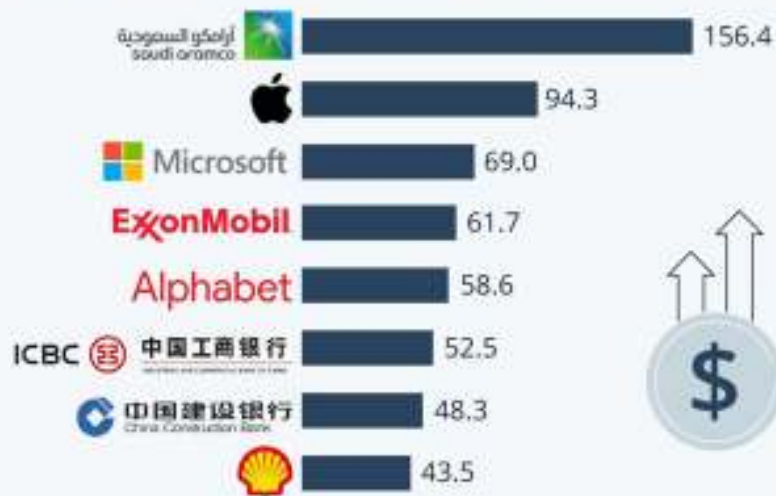


statista

Source,
2023

The Most Profitable Companies in the World

2022* profits of the world's most profitable publicly listed companies (in billion U.S. dollars)



* last 12 months available as of May 5, 2023
Source: Forbes Global 2000



statista

Source, 2023

The World's Highest-grossing Companies

Companies with the highest revenues worldwide (in billion U.S. dollars)*



* in last year available as of August 2023
Source: Statista Company Insights



statista

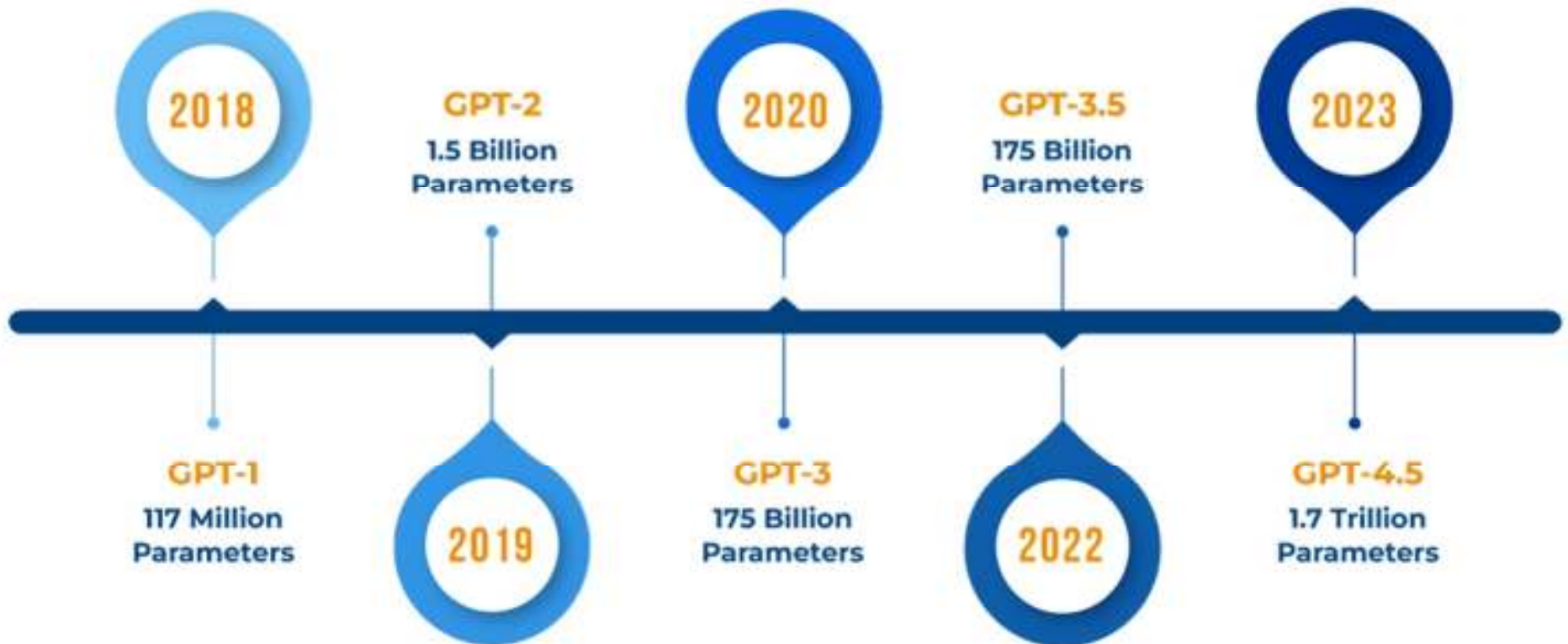
Source, 2023

High profile scandals

- **Cambridge Analytica** & election manipulation (2018) [[Wiki](#)]
- The role of Facebook in the **Rohingya genocide in Myanmar** (2018) [[Wiki](#)]
- The **Facebook Files @ Frances Haugen** and the WSJ (2021) [[Wiki](#)]
- **Amazon's** abuses against workers, businesses, and consumers [[Source](#)]
- **Uber's** massive investment in California's Proposition 22 against workers' rights [[Source](#)]
- **Uber** business model of dumping-to-unregulated-monopoly [[Source](#)]
- **Clearview AI** scraping 10 billion images without consent [[Source](#)]



OpenAI - Timeline



Source

Bidens' AI Executive Order

- Developers of the most powerful AI systems share their safety test results and other critical information with the U.S. government
- Develop federal tools for AI safety & security
- Protect against the risks of AI-generated dangerous biological materials
- Establish tests for detecting AI-generated content and authenticating official content
- Strengthen privacy-preserving technologies
- Evaluate how federal agencies collect and use commercially available data
- Address algorithmic discrimination

Source, 2023



OpenAI - History

- 2015: Started as non-profit
- 2019: From non-profit to "capped" for-profit, with the profit being capped at 100 times any investment
- 2019: Microsoft invests \$ 1 billion in OpenAI
 - Microsoft's cumulative investment in OpenAI has reportedly swelled to [\\$13 billion](#)
- 2023: Shift
 - November 17, 2023: Sam Altman was removed as CEO
 - Greg Brockman resigned from presidency
 - November 21, 2023: Altman and Brockman returned in their prior roles + a reconstructed board

ARTIFICIAL INTELLIGENCE / BREAKING / TECH

Microsoft joins OpenAI's board with Sam Altman officially back as CEO / After a failed attempt to oust Altman by the board, OpenAI's largest investor is getting a non-voting observer seat.

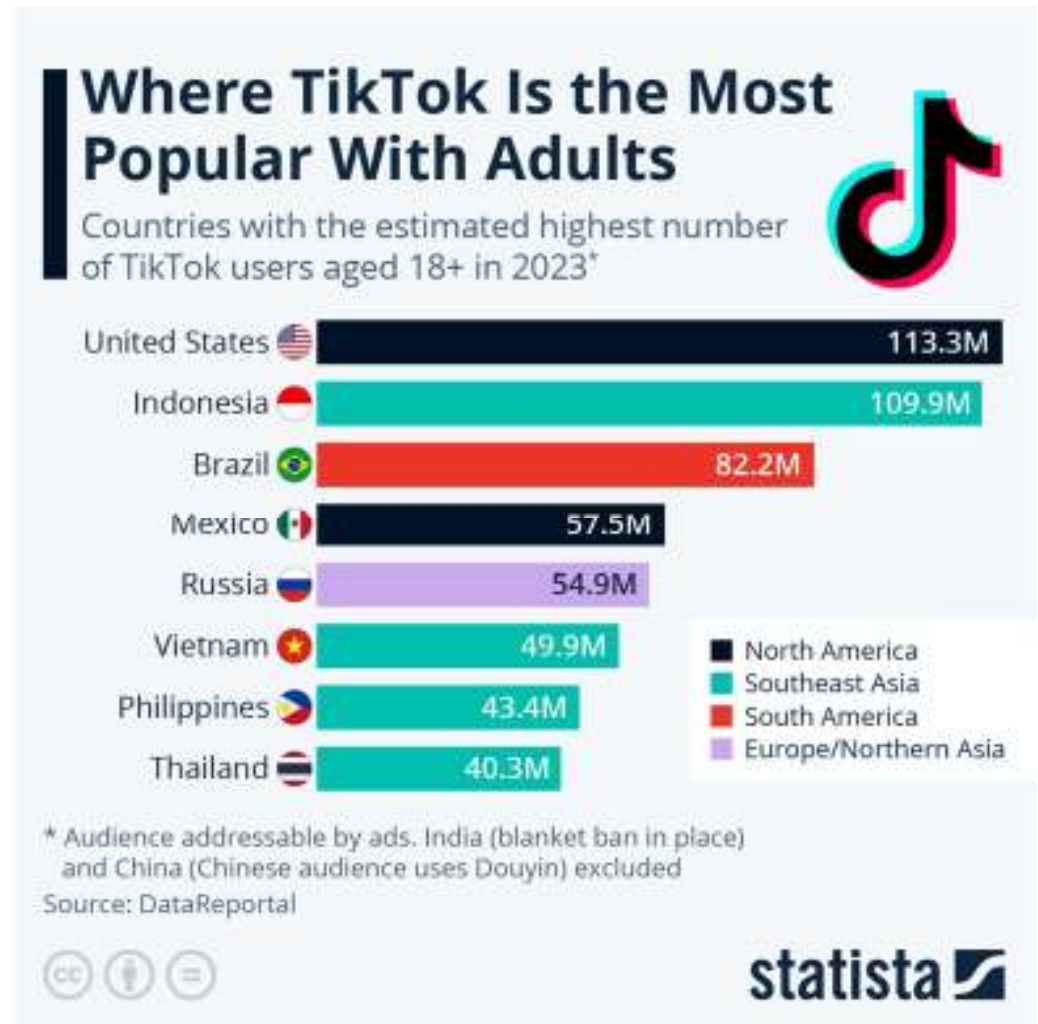
By [Alex Heath](#), a deputy editor and author of the Command Line newsletter. He's covered the tech industry for over a decade at The Information and other outlets.

Nov 30, 2023, 2:50 AM GMT+2 | [15 Comments](#) / [15 News](#)



TikTok

- China does not allow US companies to operate social networks
- The Chinese state has access to TikTok data
- How to regulate data collection by companies?



Judge Halts TikTok Ban in Montana

TikTok, which is owned by the Chinese company ByteDance, has been locked in a legal battle with Montana since the state passed the ban in April.

Share full article



A TikTok billboard in Helena, Montana, in August. A state law calls for a TikTok ban to start on Jan. 1. Tailyr Irvine for The New York Times

By [Sapna Maheshwari](#)

Nov. 30, 2023

Source

RESTRICT Act



Other short titles	Restricting the Emergence of Security Threats that Risk Information and Communications Technology Act of 2023
Long title	To authorize the Secretary of Commerce to review and prohibit certain transactions between persons in the United States and foreign adversaries, and for other purposes.
Announced in	the 118th United States Congress
Sponsored by	Mark Warner (D-VA)
Number of co-sponsors	25

Codification

Agencies affected	United States Department of Commerce
--------------------------	--------------------------------------

Legislative history

- **Introduced** in the Senate as [S. 686](#) by [Mark Warner \(D-VA\)](#) on March 7, 2023

Source



Cat and mouse

Google Hit With Another Antitrust Fine in Europe

Selected antitrust fines imposed by the European Commission against U.S. tech companies



© StatistaCharts Sources: European Commission, Press reports

[Source](#)

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Google's Contested EU Antitrust Fine is Peanuts



* Based on Alphabet's total revenues in 2019
 Fine was issued in EUR (2.4 billion)
 Sources: Alphabet, Reuters



[Source](#)

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Sept. 2022: Google loses appeal over EU 2018 antitrust ruling, but fine cut to \$4.12 billion

June 2023: Launch of 4th EU antitrust investigation into Google's ad business

4th EU Antitrust Case against Google

- Launched in June 2023
- Google may need to sell off part of its advertising business
- To prevent it from abusing its dominant position in the market and shutting out competitors

Sources: [NYTimes](#), [Politico](#) 2023

Google's Online Advertising Practices Violate Antitrust Laws, E.U. Says

European Union regulators filed new antitrust charges against Google, which could lead to fines and orders for the company to change its business practices.

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The case against Google is the fourth time the company has been charged with violating European antitrust laws in recent years. *Wes Herman/Reuters*



By **Adam Satariano**

Adam Satariano covers digital policy in Europe.

Top 6 lobby spenders in Brussels

Source: EU Transparency Register, as of September 2023

Meta	8.000.000 €
Apple	7.000.000 €
Bayer	6.000.000 €
Google	5.500.000 €
Shell	5.500.000 €
Microsoft	5.000.000 €



Source, as of Sept. 2023

Corporate Resistance

- Currently (Sept. 2023) Google still fights the EU 2017 antitrust fine
- High costs for public authorities, with limited budgets and staff

Boards, ~~Money~~ Regulation | Technology | Regulatory Oversight | Antitrust | Litigation

Google launches last-ditch effort to overturn \$2.6 bln EU antitrust fine

By Foo Yun Chee

September 19, 2023 5:27 PM GMT+3 - Updated 2 months ago



Source

Big Tech lobbying push helped block bipartisan bills that aimed to curb alleged anti-competitive behavior

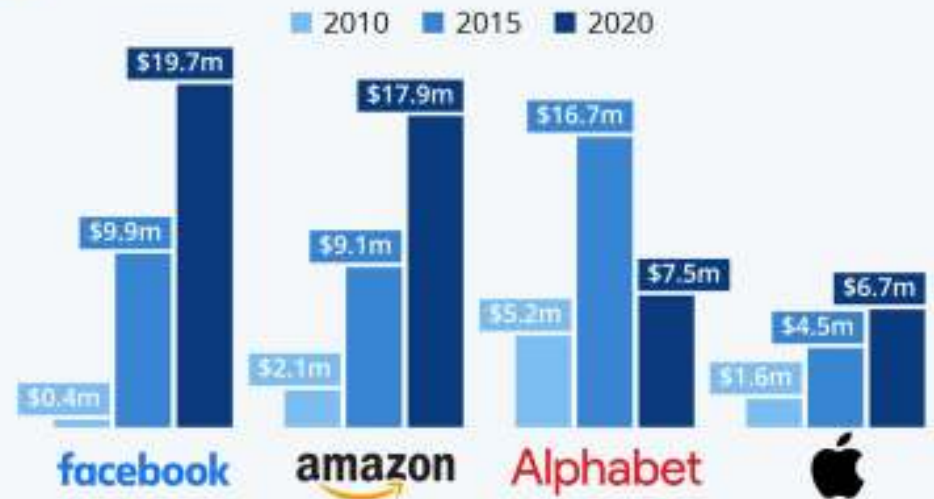
By Taylor Giorno | December 20, 2022 6:38 pm



Source

Tech Giants Ramp Up Lobbying In Face of Antitrust Scrutiny

Annual lobbying expenditure of selected tech companies in the U.S.



* excl. some subsidiaries

Source: Senate Office of Public Records



Source

The invention of ethical AI

■ The discourse of “ethical AI” was aligned strategically with a Silicon Valley effort seeking to avoid legally enforceable restrictions of controversial technologies.



Illustration: Yoshi Sodeoka for The Intercept.



Rodrigo Ochigame

December 28 2019, 8:10 p.m.

Source

What to do to escape the Tom & Jerry race?

- Regulation: defining the rules of the game
- GDPR
 - Right to personal data protection
 - Obligation of meaningful consent
 - Weak link: enforcement
 - Ireland is a tax heaven
 - But: individuals can sue
- The DSA and DMA
 - Meaningful consent and choice for users, against services and platforms
 - Enforcement at EU level
- The DGA – Data Governance Act
- The AI Act



European Digital Single Market

- End of roaming charges (2017); Renewed in 2022;
- ePrivacy Directive (Cookie Law): metadata, cookies, spam: 2002 & 2009
- End of unjustified geoblocking (2018)
- Portability of online subscriptions (2018)
- GDPR - since May 25th 2018
- PSD2 – Revised directive on payment services (2019)

- The Digital Services Act – in force, will apply starting with 2024
- The Digital Markets Act – in force, will apply starting with 2024
- The Data Governance Act – applied since Sept. 2023
- The AI Act – proposed EC regulation, under negotiation





GDPR

General Data Protection Regulation
Since May, 2018



GDPR aims

- Enhancing consumer trust in the [European Digital Single Market](#)
- Enhancing consumers' control over their personal data use
- Preventing algorithmic targeting and discrimination
- Ensuring right to human overview of AI decisions
- Ensuring data protection by design & by default

CHARTER OF FUNDAMENTAL RIGHTS OF THE EUROPEAN UNION

Article 8

Protection of personal data

1. Everyone has the right to the protection of personal data concerning him or her.
2. Such data must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified.
3. Compliance with these rules shall be subject to control by an independent authority.

Privacy activism: noyb.eu

- “My privacy is **None Of Your Business**”
- Advertising IDs: our activities are tracked by means of built-in unique identifiers
- Cookie banners: Is there meaningful consent?
- Credit scoring: do you have rights to understand and appeal inaccurate scores?
- Data portability: can you transmit your data to another operator?
- Dating apps: is our sensitive data protected?

Max Schrems



Max Schrems in 2016

Born	Maximilian Schrems October 1987 (age 35) Salzburg, Austria
Education	Law, University of Vienna
Occupation	Lawyer, author, privacy activist
Organization	NOYB – European Center for Digital Rights
Known for	Privacy activism
Website	https://schre.ms/

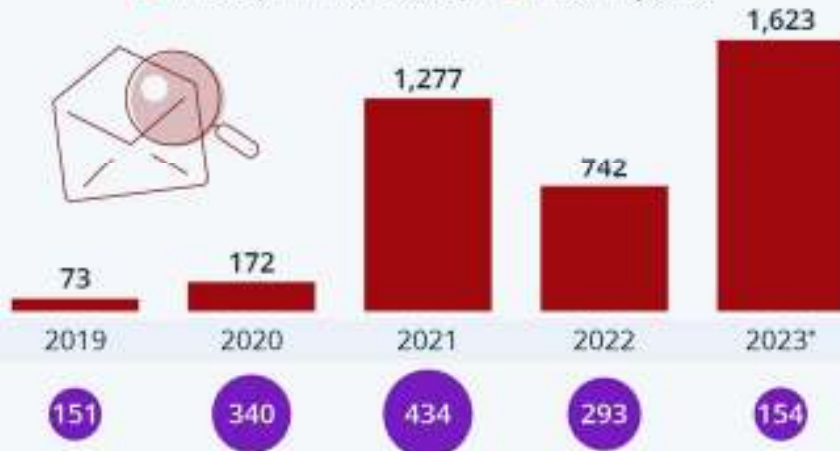
GDPR: Data subjects' rights

- Users have:
 - the **right to access data** held about them (a copy of the data must be provided to them free of charge, typically within a month of a request);
 - the **right to request rectification** of incomplete or inaccurate personal data;
 - the **right to have their data deleted (the right to be forgotten)**
 - the **right to restrict processing**;
 - the **right to data portability** (where relevant, a data subject's personal data must be provided free of charge and in a structured, commonly used and machine readable form).
- The right to **know when our data has been hacked**
 - Duty to **report any** personal data breaches within **72 hours** of awareness
- The **right to withdraw consent for data processing, at any time**
- The **right to human review of AI decisions**

Data Protection Fines Reach Record High in 2023

Fines imposed in the EU as a result of General Data Protection Regulation (GDPR) violations

■ Fines (in million euros) ● Fines imposed



* As of May 23, 2023

Sources: Enforcementtracker.com, European Data Protection Board

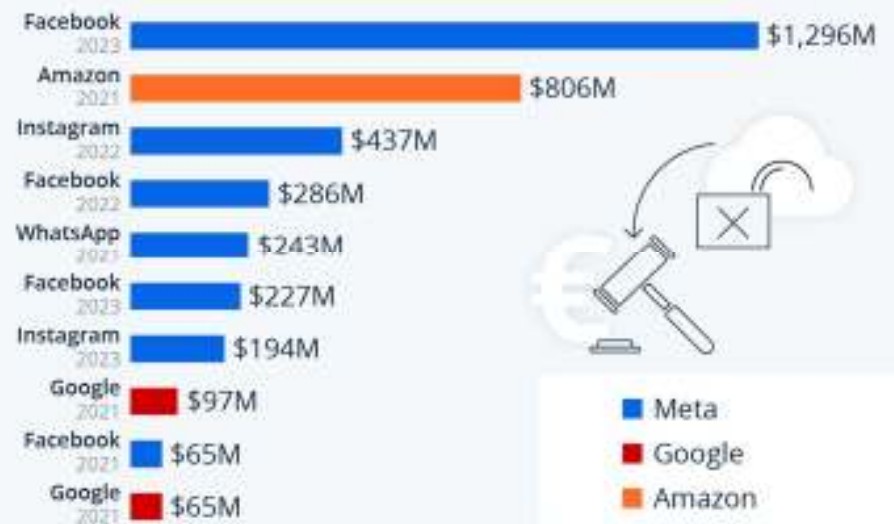


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Source, 2023

Big Tech, Big Fines

Largest fines for breaching one or more articles of the General Data Protection Regulation in the EU



Converted from euros on May 23, 2023

Sources: CMS GDPR Enforcement Tracker, European Data Protection Board



statista

Source, 2023

1. Amazon GDPR fine – €746 million

On July 16, 2021, the Luxembourg National Commission for Data Protection (CNDP) issued the **biggest fine ever for the violation of the GDPR** in the amount of **€746 million (\$888 million)** to Amazon.com Inc.

The fine was issued as a result of a complaint filed by 10,000 people against Amazon in May 2018, through a French privacy rights group that **promotes and defends fundamental freedoms in the digital world- La Quadrature du Net.**

The CNPD opened an investigation into how Amazon processes personal data of its customers and found infringements regarding Amazons' advertising targeting system that was carried out without proper consent.

[Source](#)



La Quadrature du Net

ABOUT US

La Quadrature du Net (LQDN) promotes and defends fundamental freedoms in the digital world. We fight against censorship and surveillance, both from States or private companies. We questions how the digital world and society influence each other. We work for a free, decentralised and empowering Internet.

Contact

Follow LQDN

[Source](#)

USA – Federal Trade Commission Fines

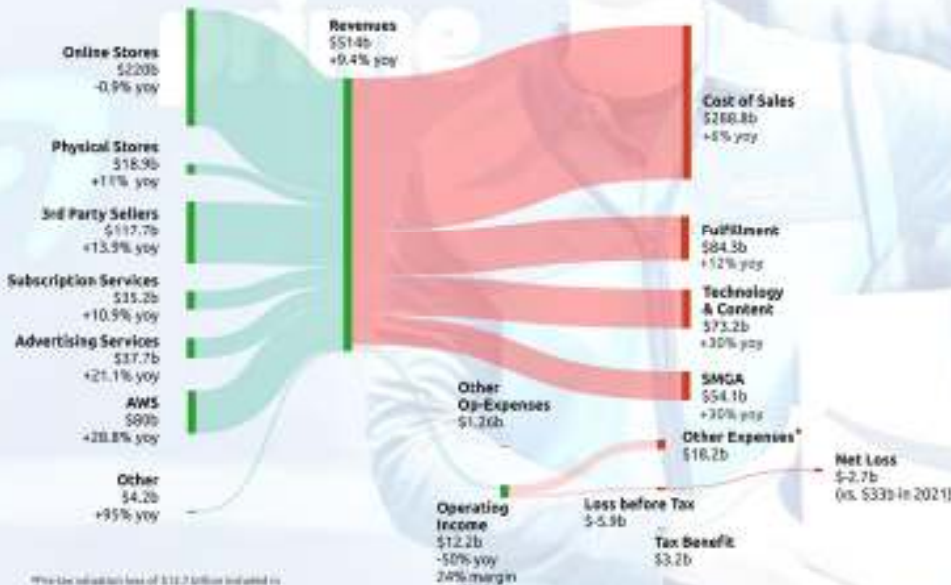
- Largest FTC privacy-related fine against Facebook for Cambridge Analytica (July 2019): \$ 5 billion
- FTC privacy fine against Google & YouTube: \$ 170 million



Source

Amazon's Income Statement 2022

Earnings Released on February 2nd, 2023



*The tax reduction loss of \$11.7 billion included in non-operating income (expense) from the combined stock investment in Rivian Automotive, Inc.

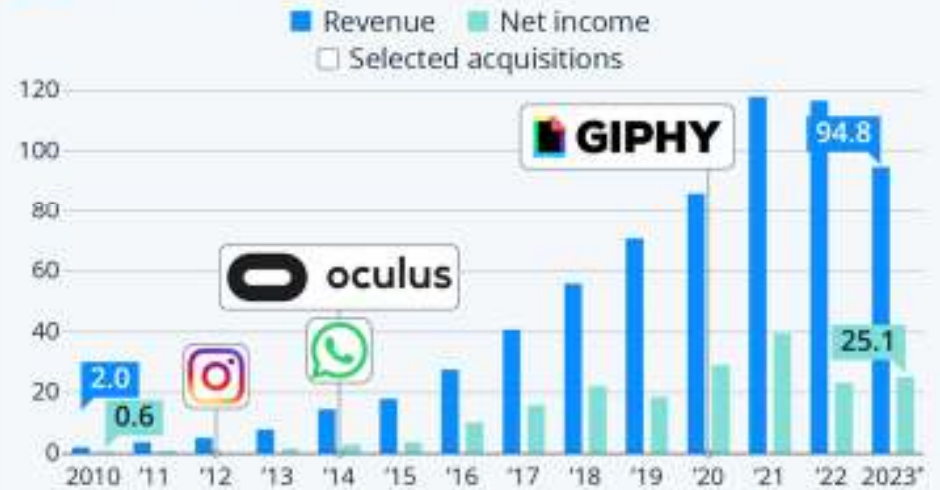
Data Source: Amazon's Q4 Earnings Report
 Source: [unchartedfinance.com](https://www.unchartedfinance.com)



Source, 2023

Meta Bounces Back From Its 2022 Slump

Annual net income & revenue of Facebook/Meta (in billion U.S. dollars)



* Q1-Q3
 Source: Meta



Source, 2023

FROM AFP NEWS

How Big Tech Generated Billions In Fines... Then Didn't Pay Them



By Joseph Boyle and Peter Murphy in Dublin November 18, 2023

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Text size

Rarely a month goes by without big tech companies getting fined for price fixing, squashing competitors or misusing data, but it can take years before they pay a penny.

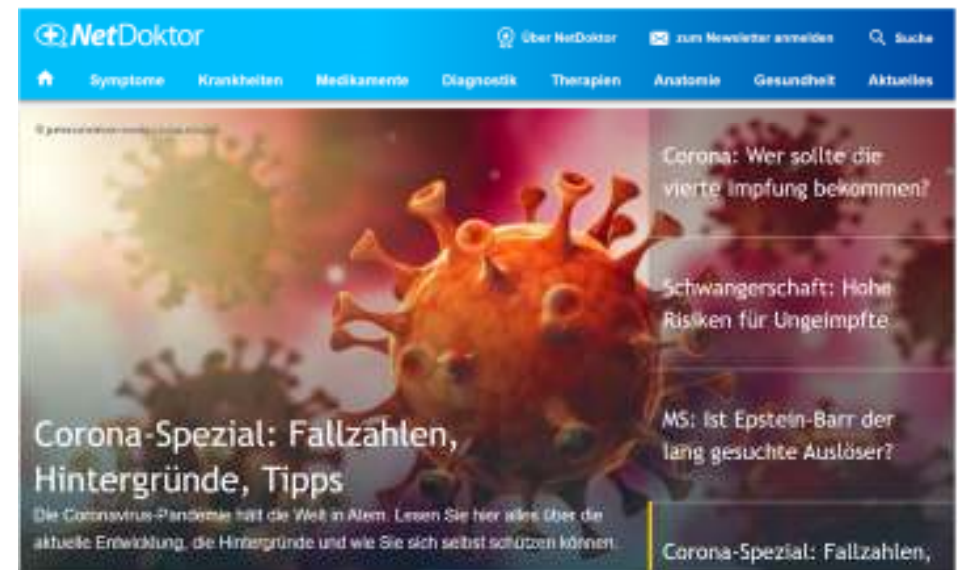
Ireland's data regulator confirmed to AFP that Meta has not paid any of the two billion euros (\$2.2 billion) in fines issued since last September. TikTok also owes hundreds of millions.

Amazon is still appealing against a 746 million euro fine from 2021, Luxembourg's data regulator told AFP.

Source

Other trials: GDPR vs Google and the Privacy Shield

- Dec. 2021: The use of Google Analytics on NetDoktor violates GDPR (Austrian Data Regulator) ([Wired](#))
- Dec. 2021: European Parliament's Covid-19 testing website breached GDPR by using cookies from Google Analytics and Stripe (European Data Protection Regulator) ([Wired](#))
- July 2020: Privacy Shield, use to transfer data from EU to US, is invalid (European Court of Justice) ([Wired](#))
- Data are not protected from access by US intelligence agencies



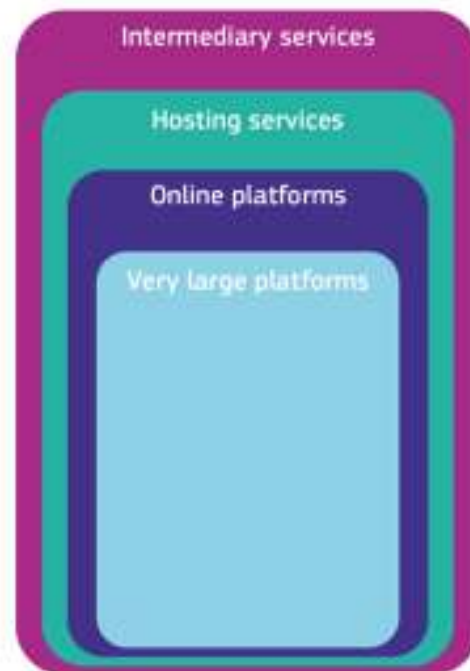
DSA & DMA

Digital Services Act

Digital Markets Act

In force since Nov. 2022, to be applied starting 2024

Types of digital services



- **Intermediary services** offering network infrastructure: Internet access providers, domain name registrars, including also:
- **Hosting services** such as cloud and webhosting services, including also:
- **Online platforms** bringing together sellers and consumers such as online marketplaces, app stores, collaborative economy platforms and social media platforms.
- **Very large online platforms** pose particular risks in the dissemination of illegal content and societal harms. Specific rules are foreseen for platforms reaching more than 10% of 450 million consumers in Europe.

DSA

	Intermediary services	Hosting services	Online platforms	Very large platforms
Transparency reporting	•	•	•	•
ToS respect for fundamental rights	•	•	•	•
Notice and action and obligation to provide information to users		•	•	•
Reporting criminal offences		•	•	•
Complaint and redress mechanism, out of court dispute settlement			•	•
Trusted flaggers			•	•
Special obligations for marketplaces, e.g. vetting credentials of third-party suppliers, random checks			•	•
Bans on targeted adverts to children and those based on special characteristics of users			•	•
Transparency of recommender systems			•	•
User-facing transparency of online advertising			•	•
Risk management obligations and crisis response				•
External & independent auditing				•
User choice not to have recommendations based on profiling				•
Data sharing with authorities and researchers				•
Codes of conduct				•
Crisis response cooperation				•

Source

DSA & DMA targets



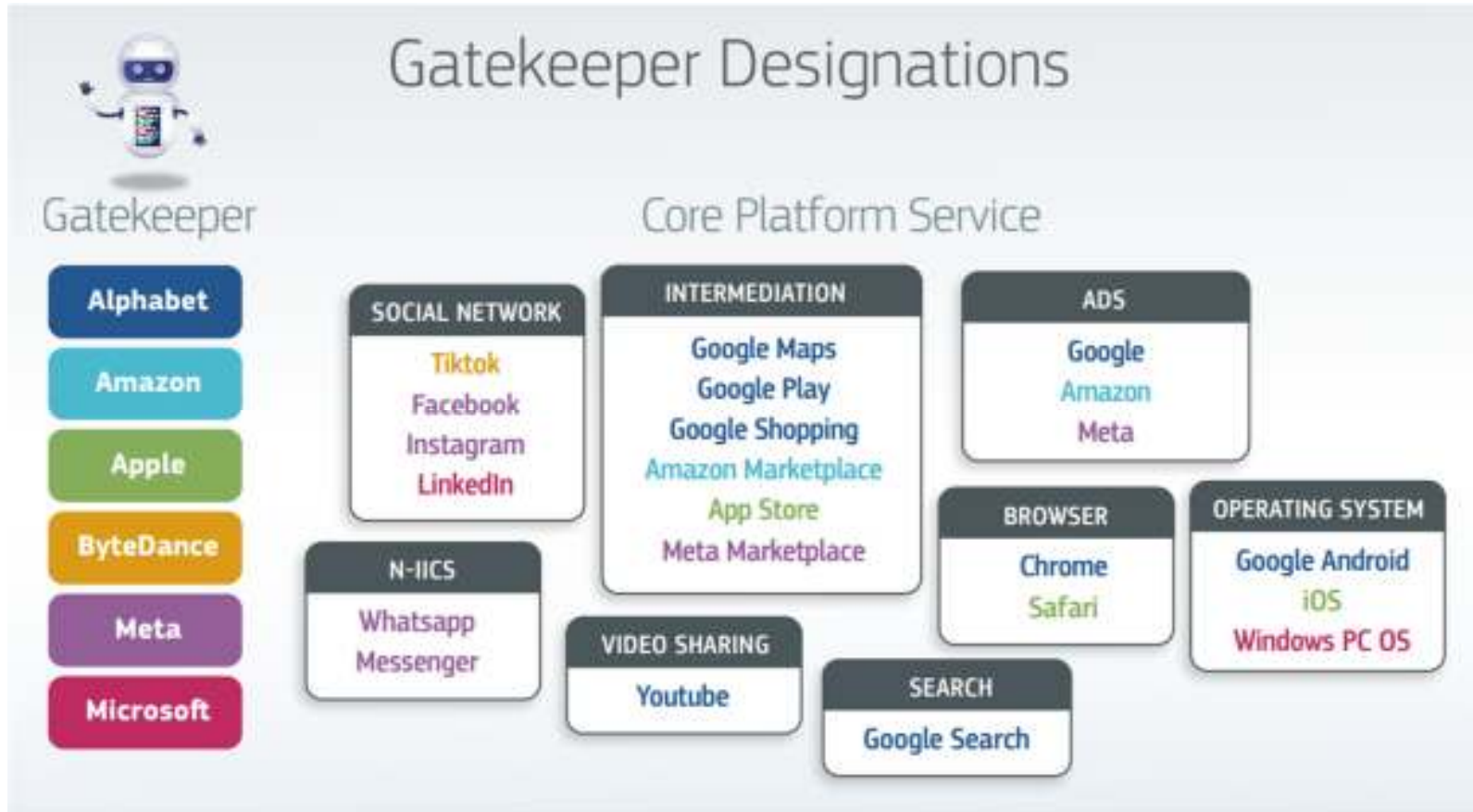
Digital Services Act

- Applies to digital services, mostly intermediaries
 - Online marketplaces, social networks, content-sharing platforms, app stores, and online travel and accommodation platforms
 - All providers that offer services in the EU

Digital Markets Act

- Applies to very large online platforms - gatekeepers
 - Digital platforms with a systemic role in the internal market
 - Function as bottlenecks between businesses and consumers for important digital services
 - All platforms that offer services in the EU

Who are the gatekeepers?



Source, 2023

Gatekeeper platforms...



Will have to:

- Allow some third-party interoperability
- Allow business users to access the data they generate
- Permit business users to independently verify ad effectiveness
- Allow business users to promote products and conclude contracts outside the gatekeeper platform

May no longer:

- Discriminate ranking in favor of its own services and products
- Prevent consumers from linking outside the platform
- Prevent users from uninstalling pre-installed software
- Track users outside the platforms without effective consent

Challenge: Enforcement

- GDPR: selective enforcement, uneven national approaches
- DSA & DMA:
 - Creating a new a European Centre for Algorithmic Transparency
 - EC collaboration with civil society & NGOs specialized on tech & human rights
 - Tech companies will develop human rights impact assessments (HRIAs)



Sanctions

- GDPR-style fines of up to 6% of the worldwide annual income or turnover
 - The size of the fine will be linked to the severity of the breach, as well as the duration and frequency of the violation.
- The Member States or the Commission may impose fines of up to 1% of annual income or turnover
 - For providing incorrect, incomplete, or misleading information.





Data Governance Act

The EU will boost the development of trustworthy data-sharing systems

Enable evidence-driven policies
Applicable since September 2023



Trustworthy Data-Sharing Systems

1. Facilitate the reuse of certain public sector data (e.g. Health) that cannot be made available as open data
2. Ensure that data intermediaries will function as trustworthy organisers of data sharing or pooling
3. Make it easier for citizens and businesses to make their data available for the benefit of society
4. Facilitate data sharing, in particular to make it possible for data to be used across sectors and borders, and to enable the right data to be found for the right purpose.

1+Million Genomes

- Establishing a European federated, sustainable and secure data infrastructure to access genomic and related health data across Europe
- Developed by the EU-funded [Beyond 1 Million Genomes \(B1MG\) project](#)



Shaping Europe's digital future



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1+Million Genomes Initiative: new Roadmap is adopted for the scale-up and sustainability phase

DIGIBYTE | Publication 15 November 2023

1+Million Genomes Initiative: new Roadmap is adopted for the scale-up and sustainability phase

[Source](#)

A close-up photograph of a person's hand holding a wooden chess piece, likely a king, over a chessboard. The person's face is blurred in the background, showing they are wearing glasses. The lighting is soft, and the focus is on the hand and the piece being held.

AI Act

Still negotiated

The AI Act – Challenges:

- Proliferation of AI decisions
- Risks of foundational models
- AI/ML errors
 - Low transparency & explainability
- Algorithmic discrimination
 - Prison sentencing
 - Housing
 - Health care priorities
 - Credit scoring
 - Grading
 - Job recruitment

EU 'in touching distance' of world's first laws regulating artificial intelligence

Dragoș Tudorache, MEP who has spent four years drafting AI legislation, is optimistic final text can be agreed by Wednesday



Once adopted by the European parliament, the AI Act could introduce rules for everything from chemical weapons made through AI to copyright theft. Photograph: Jean-François Badias/AP

Source

The AI Act – Approach:

- Prohibiting algorithmic scoring of human trustworthiness
- Extra checks for “high-risk AI” products
 - What counts as high-risk?
 - Eg: in insurance, only algorithms used for the risk assessment and pricing of health and life insurance are considered high risk
- Restrict / ban facial recognition in public places
- Restrict / ban emotion recognition products
- Restrict / ban predictive policing systems
- Penalties: fines of up to €20 million or 4% of annual turnover.

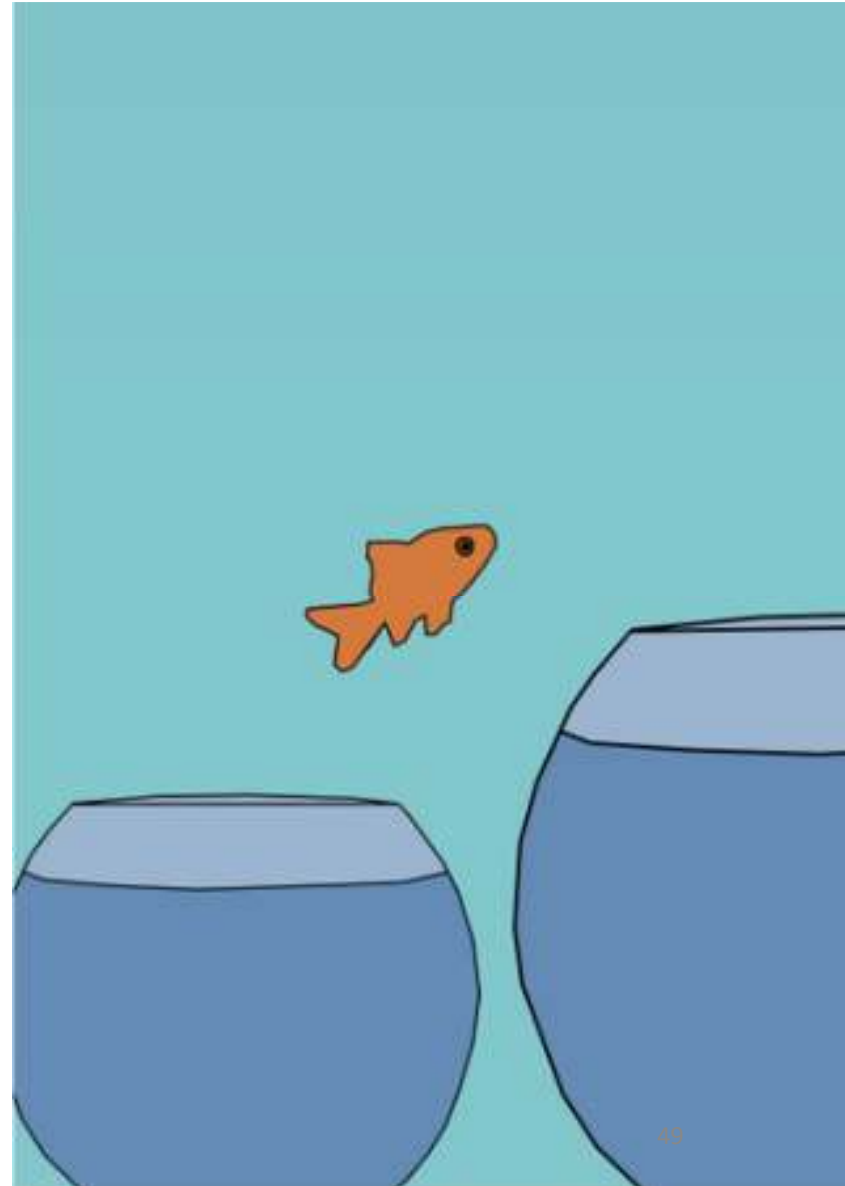
Source: [Wired](#), [Euractiv](#)



AI Act Now

- Adopted in EU Parliament
 - Now: Trilogues - the EU Commission, Council and Parliament hash out the final provisions
- General-purpose AI models (such as GPT)
- Defining a clear list of high-risk and lower-risk AI use cases and refining the criteria for exemptions
- Ban the use of AI in biometric surveillance (France is against)
- Regulate use of copyrighted content by entities like OpenAI
- Emotion recognition
- Reporting energy consumption

Source, 2023



New Definition for AI adopted by OECD

- To inform the AI Act
- “An AI system is a machine-based system that, for explicit **or implicit** objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that [can] influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment” ([Nov. 2023](#))
- AI objectives may be given by humans – **or not**



The AI Liability Directive

- People and companies get the right to sue for damages after being harmed by an AI system.
 - Did an AI recruitment system discriminate against your CV?
- Criticism
 - It puts the responsibility on consumers to prove that an AI system harmed them or an AI developer was negligent
 - Fails to take into account indirect harms caused by AI systems

MIT Technology Review

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TECH POLICY

The EU wants to put companies on the hook for harmful AI

A new bill will allow consumers to sue companies for damages—if they can prove that a company's AI harmed them.

By Melissa Heikkilä

October 1, 2022



Source

Conclusions

- Anti-trust vs. Privacy regulation
- Systemic regulation enables collective action
- The European Union is building a new playing field for the digital society
- There is a critical challenge of enforcement
- Anti-trust and data protection rules may consolidate a competitive European digital single market

