

# DIGITAL POWER: PLATFORMS & ECOSYSTEMS *AS THE DOMINANT ORGANIZATIONAL FORM & NEW SOCIAL INSTITUTIONS OF THE DIGITAL AGE*

DIGHUM “DIGITAL HUMANISM” LECTURE – 2 DEC 2025

## **Professor Annabelle Gawer**

Director, Centre of Digital Economy (CoDE)  
Surrey Business School, University of Surrey,  
UK



# Platforms in the global economy

In 2025, SIX OUT OF THE TEN LARGEST COMPANIES ARE NOW BASED ON PLATFORM BUSINESS MODELS

2025		Source: <a href="http://www.companiesmarketcap.com">www.companiesmarketcap.com</a>
Rank	Name	Market Cap
1	 NVIDIA NVDA	\$4.329 T
2	 Microsoft MSFT	\$3.830 T
3	 Apple AAPL	\$3.512 T
4	 Alphabet (Google) GOOG	\$3.043 T
5	 Amazon AMZN	\$2.468 T
6	 Meta Platforms (Facebook) META	\$1.921 T
7	 Broadcom AVGO	\$1.719 T
8	 Saudi Aramco 2222.SR	\$1.497 T
9	 TSMC TSM	\$1.355 T
10	 Tesla TSLA	\$1.322 T

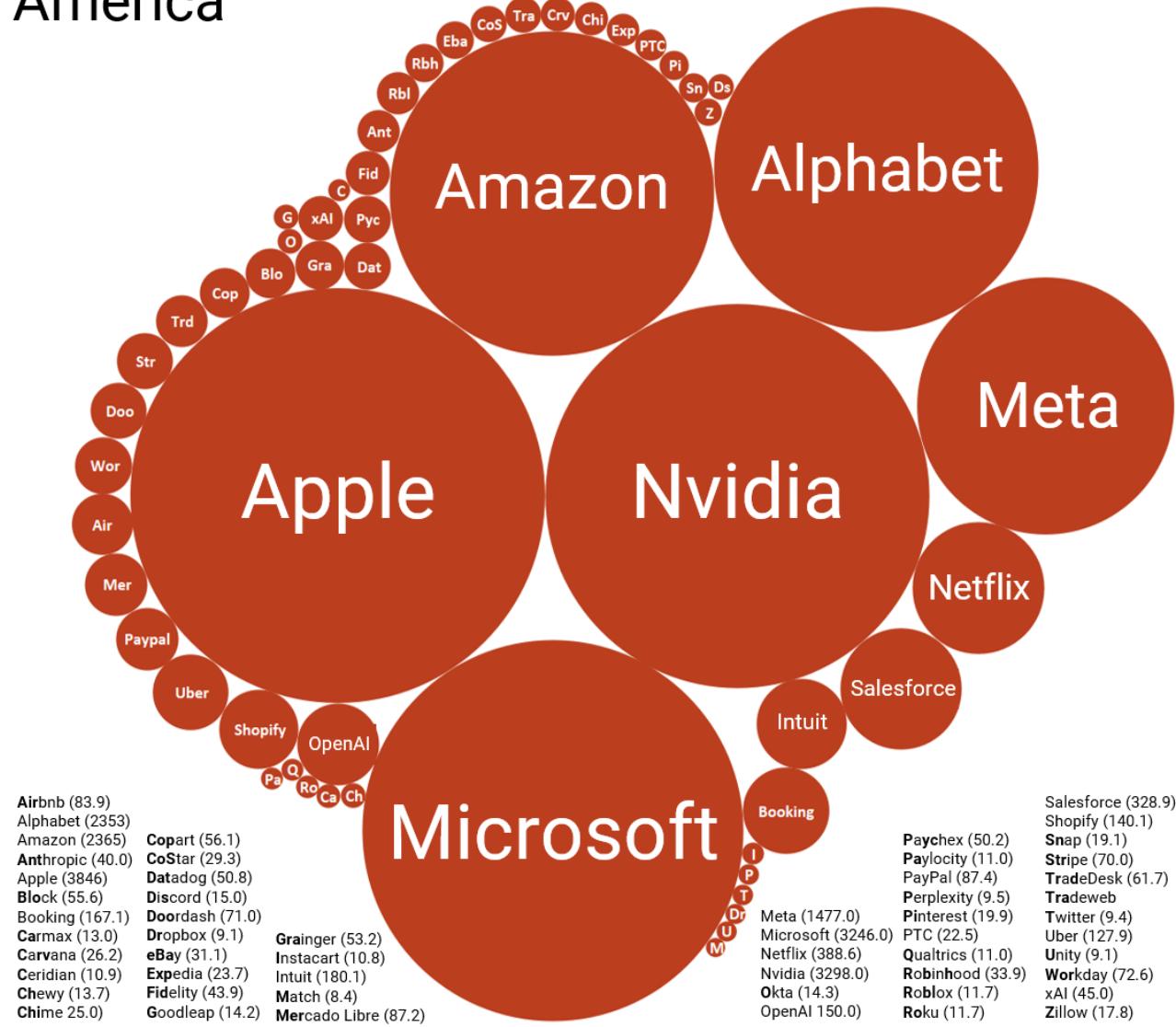
2008	RANK	COMPANY	FOUNDED	USBn
	1.	 <b>PetroChina</b>	1999	728
	2.	 <b>EXXON</b>	1870	492
	3.	 <b>GE</b>	1892	358
	4.	 <b>中国移动</b> China Mobile	1997	344
	5.	 <b>ICBC</b>	1984	336
	6.	 <b>GAZPROM</b>	1989	332
	7.	 <b>Microsoft</b>	1975	313
	8.	 <b>Shell</b>	1907	266
	9.	 <b>Sinopec</b>	2000	257
	10.	 <b>AT&amp;T</b>	1885	238

Sources: Bloomberg, Google

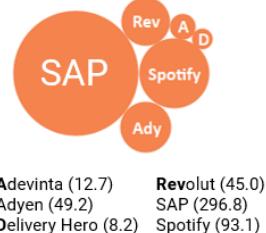
# Top 100 Worldwide Platforms

Market Cap / Valuation based on most recent financing  
**Total Value: 22.67 Trillion USD**  
**Company Values (in Billion USD)**  
**Based on December 20, 2024**

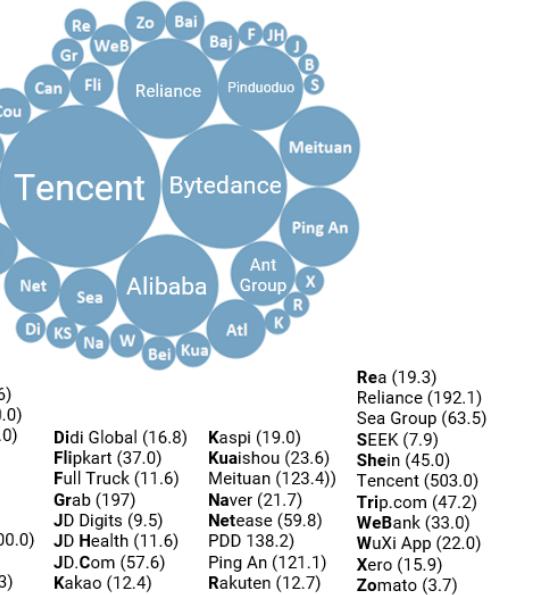
America



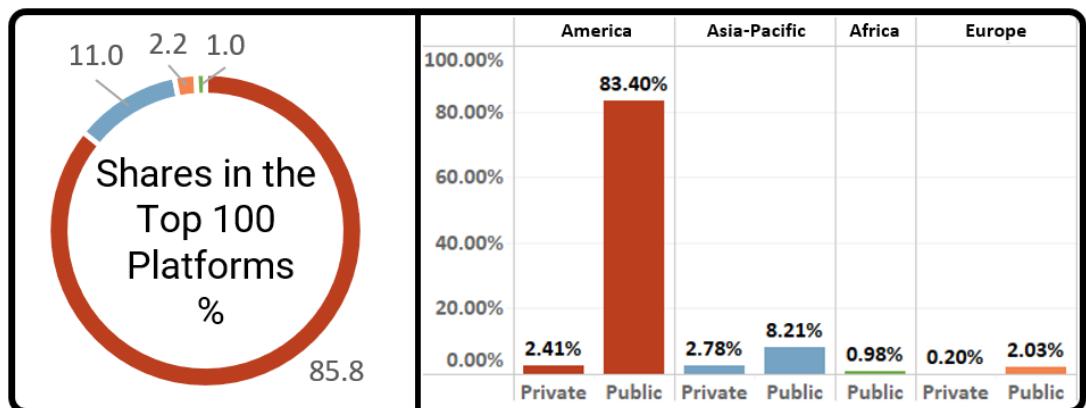
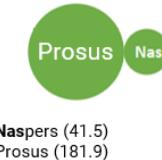
Europe



## Asia-Pacific



## Africa



# THERE HAS BEEN A PLATFORM EXPLOSION



# DIGITAL PLATFORMS & ECOSYSTEMS: *THE NEW DOMINANT ORGANIZATIONAL FORMS OF THE DIGITAL AGE*

**Pervasive  
Connectivity / AI / Cloud  
/ Big Data /**

**New complementarities across  
technologies, organizations, markets  
and sectors**

**Digital  
Transformation**

**New ways to create value**

**New organizational  
forms**

**Digital platforms and  
ecosystems**



Gawer, A (2022) *Innovation: Organization & Management*  
Digital platforms and ecosystems:  
Remarks on the dominant  
organizational forms of the digital

# PLATFORMS COME IN DIFFERENT SIZES AND FORMS



Google

Linkedin

facebook

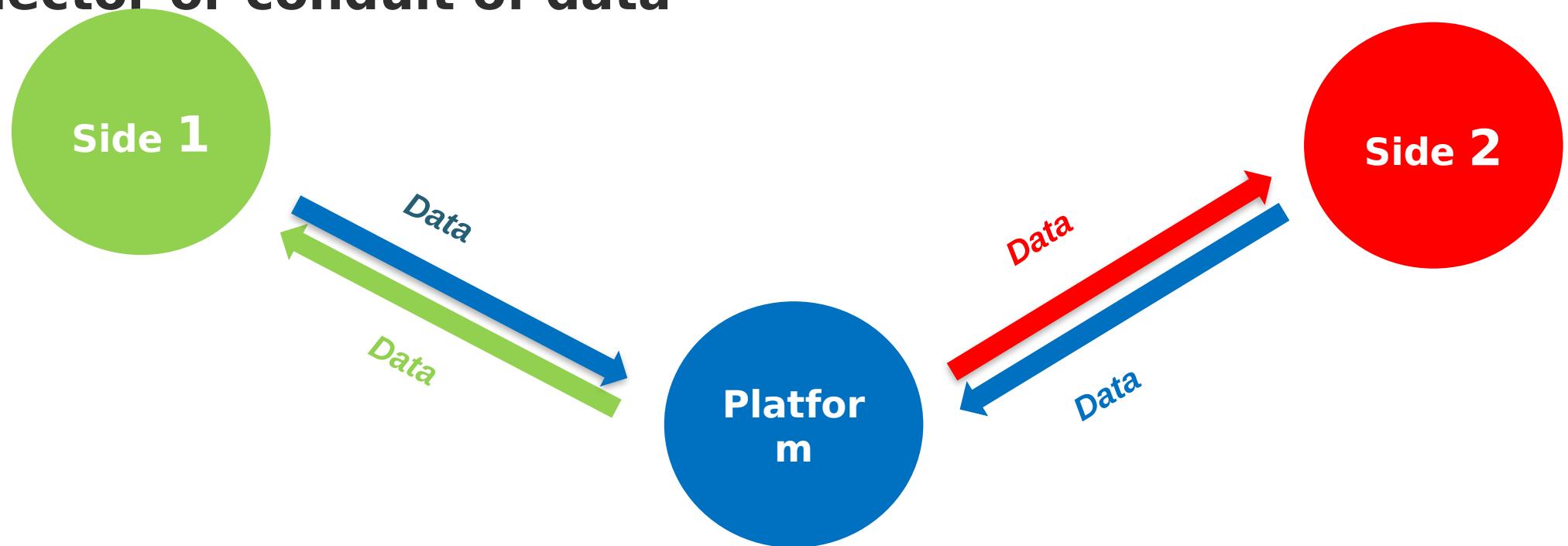
# PHYSICAL INTERFACES

- A ***physical interface*** structures the **ways in which** modules in a physical - material context connect to each other. It is located at the boundary between the modules. It is therefore acts **a demarcation and as a connector between modules**

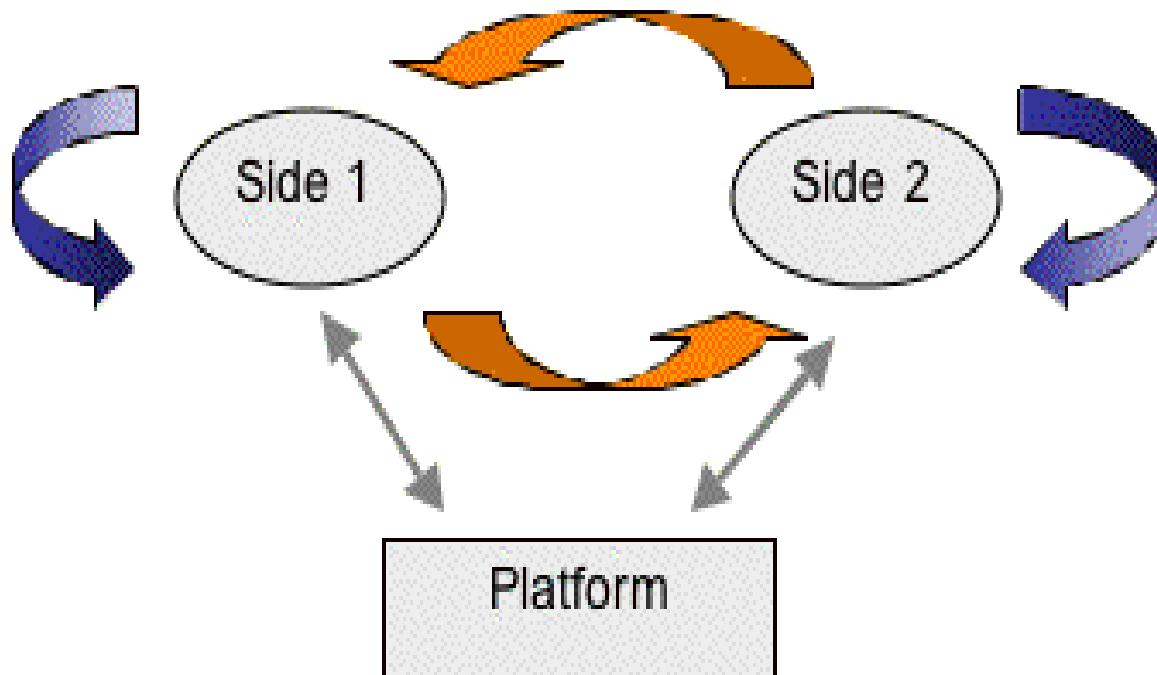


# DIGITAL INTERFACES

- A ***digital interface*** structures the **modalities of interconnection** between various agents in a digitalized connected context. It therefore acts **as a demarcation between agents and as a connector or conduit of data**



# TRANSACTION PLATFORMS



## INDIRECT NETWORK EFFECTS

eBay Sellers  
Uber Drivers  
Xbox Developers  
Amex Merchants

YouTube  
Videographers  
Airbnb Rooms  
Tesla Charge  
Stations

Mechanical Turk  
Laborers

Employers  
Developers



eBay Buyers  
Uber Riders  
Xbox Gamers  
Amex Card Holders  
YouTube Viewers  
Airbnb Renters  
Tesla Car Drivers  
Mechanical Turk  
Jobs  
LinkedIn  
Employees  
Facebook  
Developers

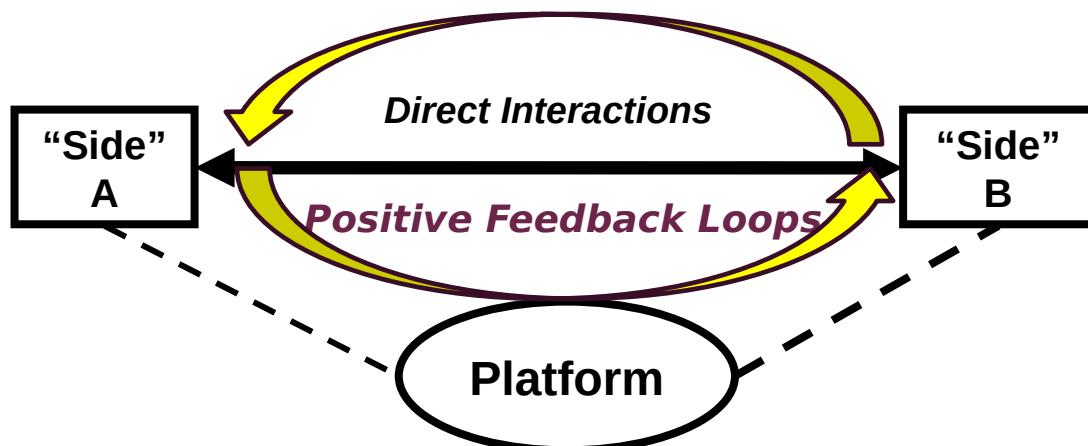
**Each Side Attracts  
More of the Other**

**Platforms directly connect two or more sides of a market**

(e.g., buyers & sellers, renters & property owners, or users & app developers).

**Platforms reduce search and/or transaction costs for one or multiple sides.**

**Platforms generate value by exploiting positive feedback loops & network effects.**



# INNOVATION PLATFORMS

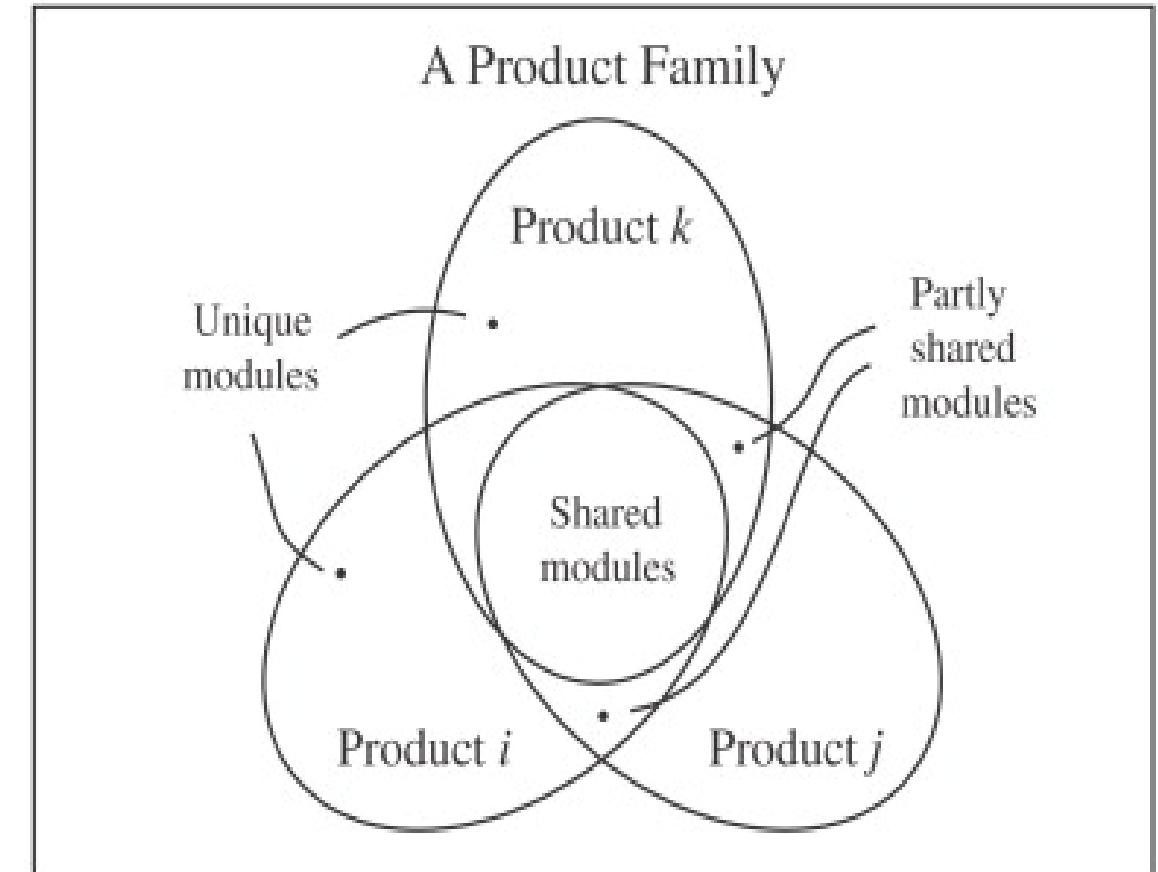


**A platform is a system that can be adapted to countless needs and niches that the platform's original developers could not possibly have contemplated...**

**Mark Andreessen**  
**Venture Capitalist, Netscape Founder,**  
**Board: HP, eBay (formerly), Facebook**  
«The 3 kinds of platforms you meet on the Internet» (2007)

# INNOVATION PLATFORMS

Innovation platforms are technologies that facilitate the development of complementary innovation in innovation ecosystems.



# Internal Product Platforms



# Supply Chain Platforms

## Ex. VW Audi Platforms for Electric Vehicles



## Flexible manufacturing and the rise of cars built to work worldwide



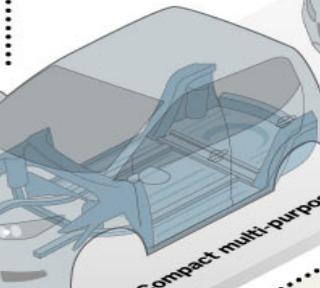
Ford calls the new global version of its midsize Focus, out from 2011, a 'world car'. About 80 per cent of its parts will be common across Europe, the US and Asia  
Photo: Getty

### Flexible platforms

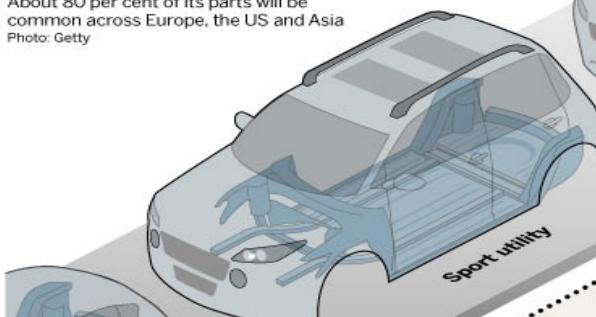
Platform sharing was until recently limited to vehicles of identical or similar size. Now, thanks to industrial advances, manufacturers can make very different models on the same production line. A wheelbase, for example, can be moved by a few inches to make more space for rear passengers



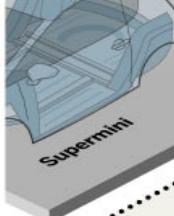
Family hatchback



Compact multi-purpose



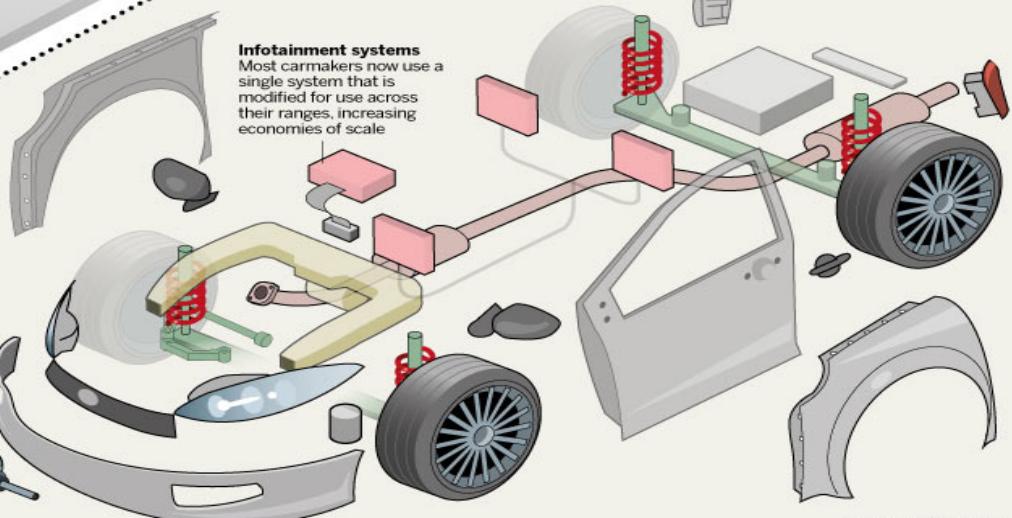
Sport utility



Supermini

### Axes

The Lego-like modular system allows a high-end or low-end axle to be added, enabling manufacturers to tailor models to meet high or low price points

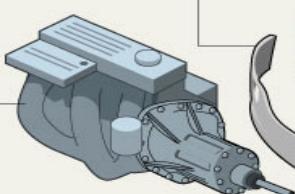


### Infotainment systems

Most carmakers now use a single system that is modified for use across their ranges, increasing economies of scale

### Large modules

Manufacturers can add a different front or rear-end module or engine to cars being made at the same plant



### Engines

In modular block design, the engine's allotted space and point of connection with the chassis are fixed in a way that allows carmakers to produce several very different models on the same production line

FT Graphic: Graham Parrish

# Ecosystem Platforms vs. Internal Product Platforms

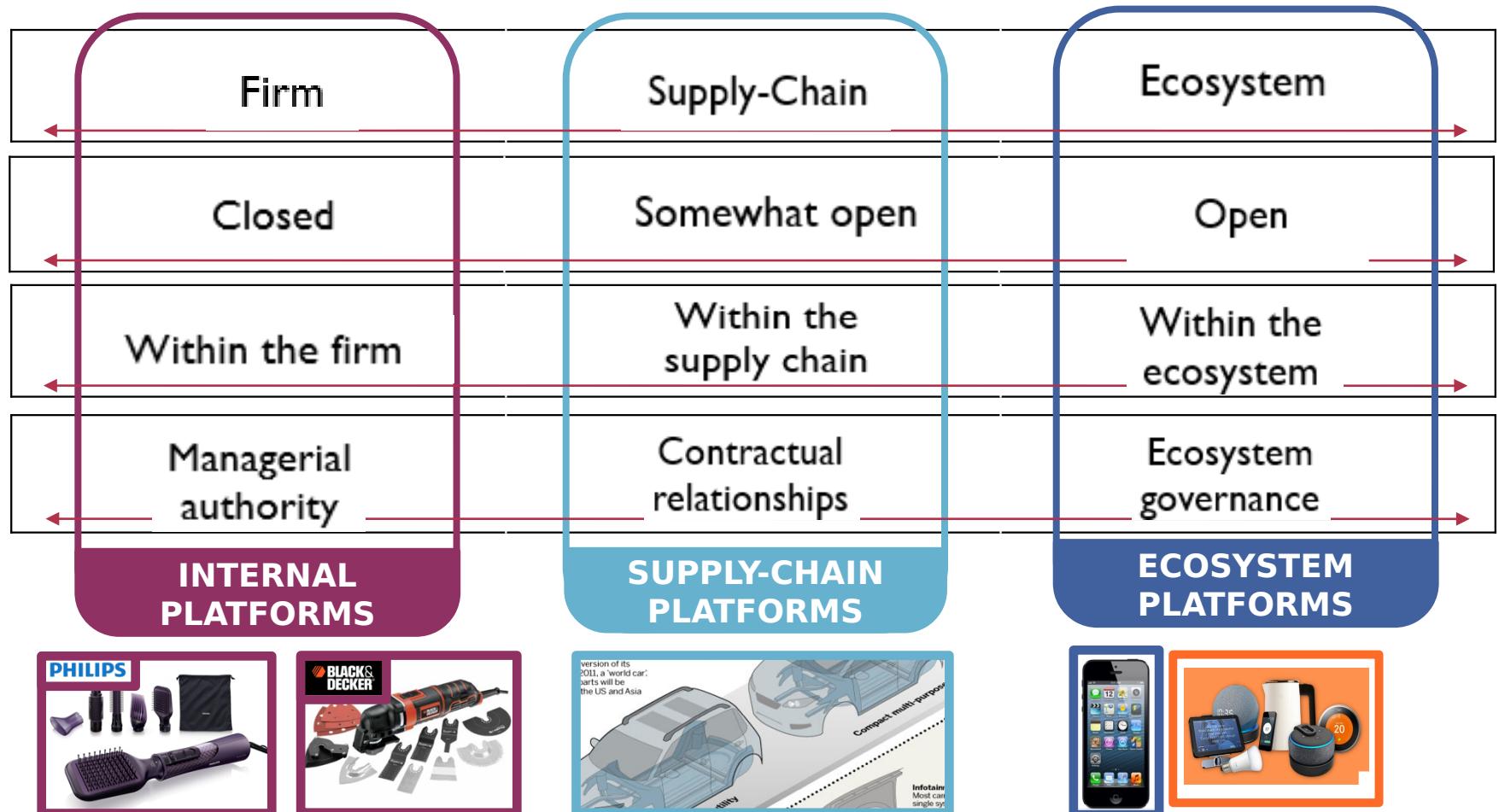
Organizational Form

Interfaces

Accessible Capabilities

Governance

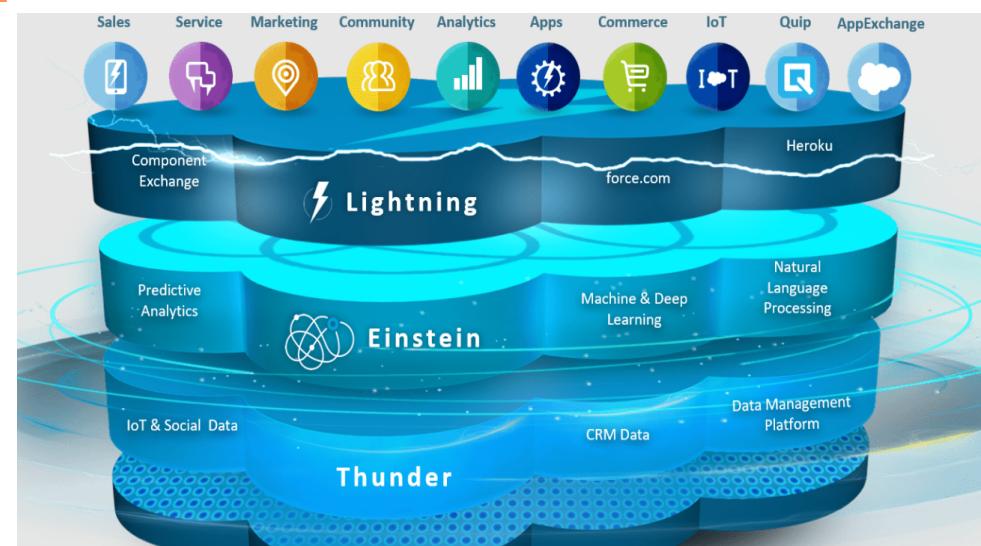
Source: Gawer, A. Bridging differing perspectives on technological platforms, *Research Policy* 2014

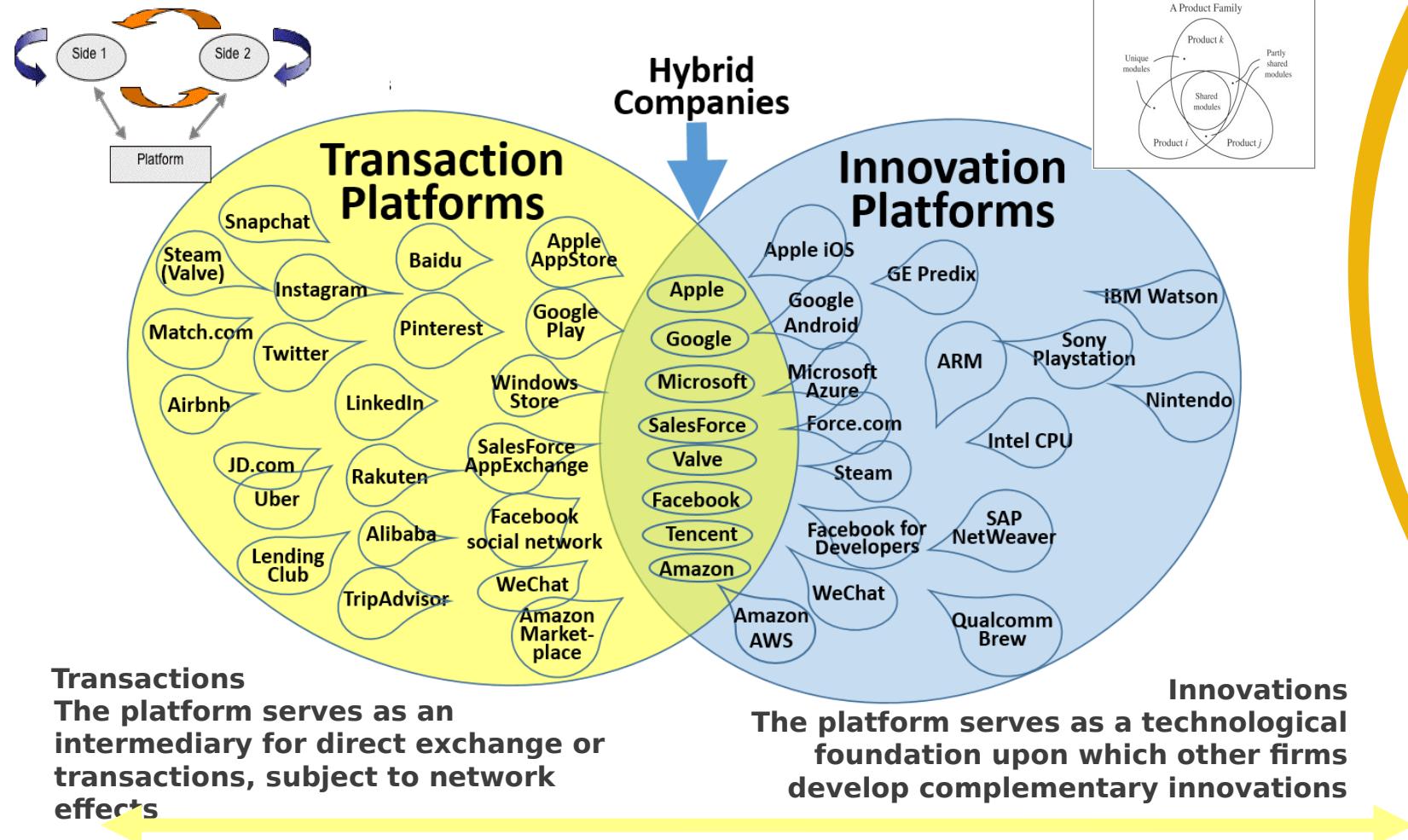




## PLATFORM-BASED ECOSYSTEMS

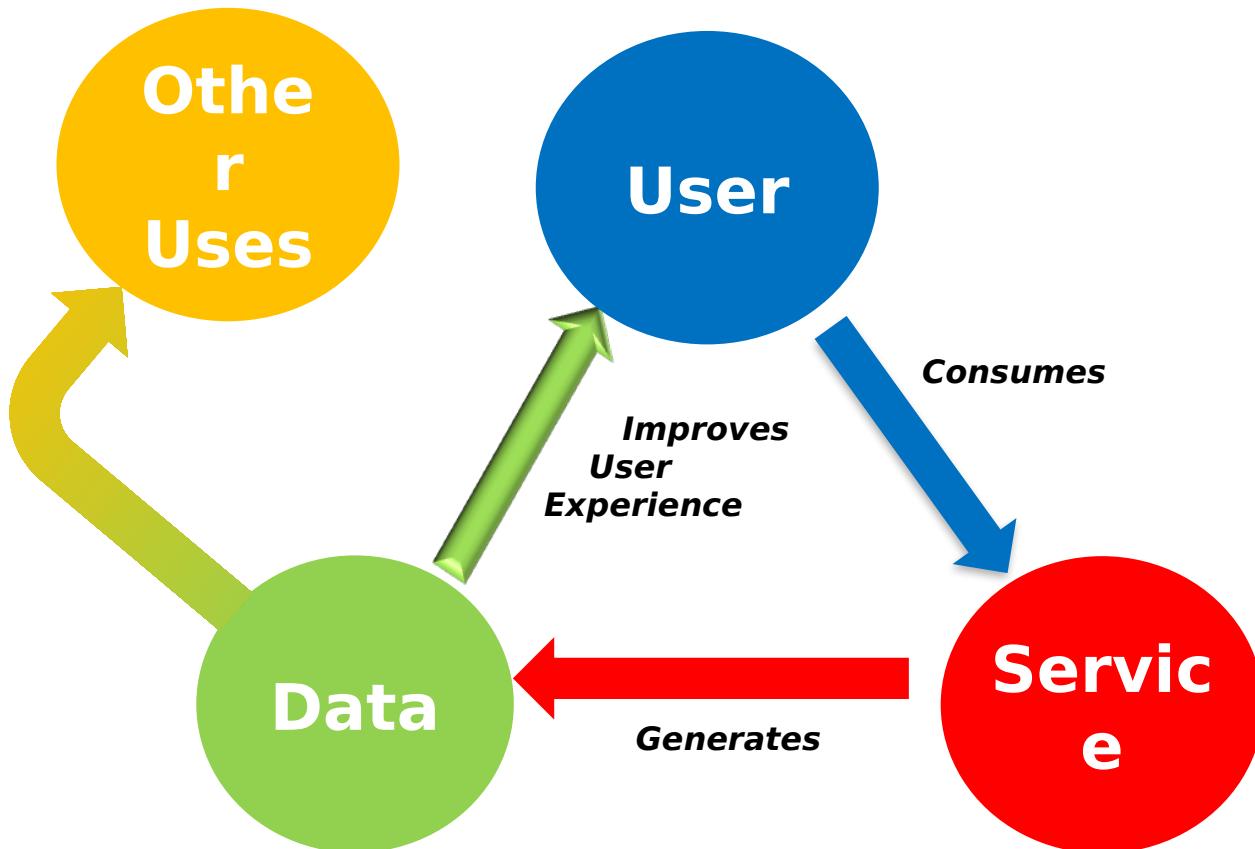
EX. SMART HOME VOICE-ASSISTANT & IOT ECOSYSTEM  
EX. SALESFORCE ECOSYSTEM





# COMPLEMENTARITIES IN DATA GENERATION AND CONSUMPTION

## ALLOWS LEVERAGING DATA ACROSS SILOS, USERS, AND ORGANIZATIONS



### RULES OF THE DATA FEEDBACK LOOP

As users consume data, they also generate data

Data does not get «depleted» as it gets «consumed» (non-rival good)

Data-as-output CAN be used as further input to improve services

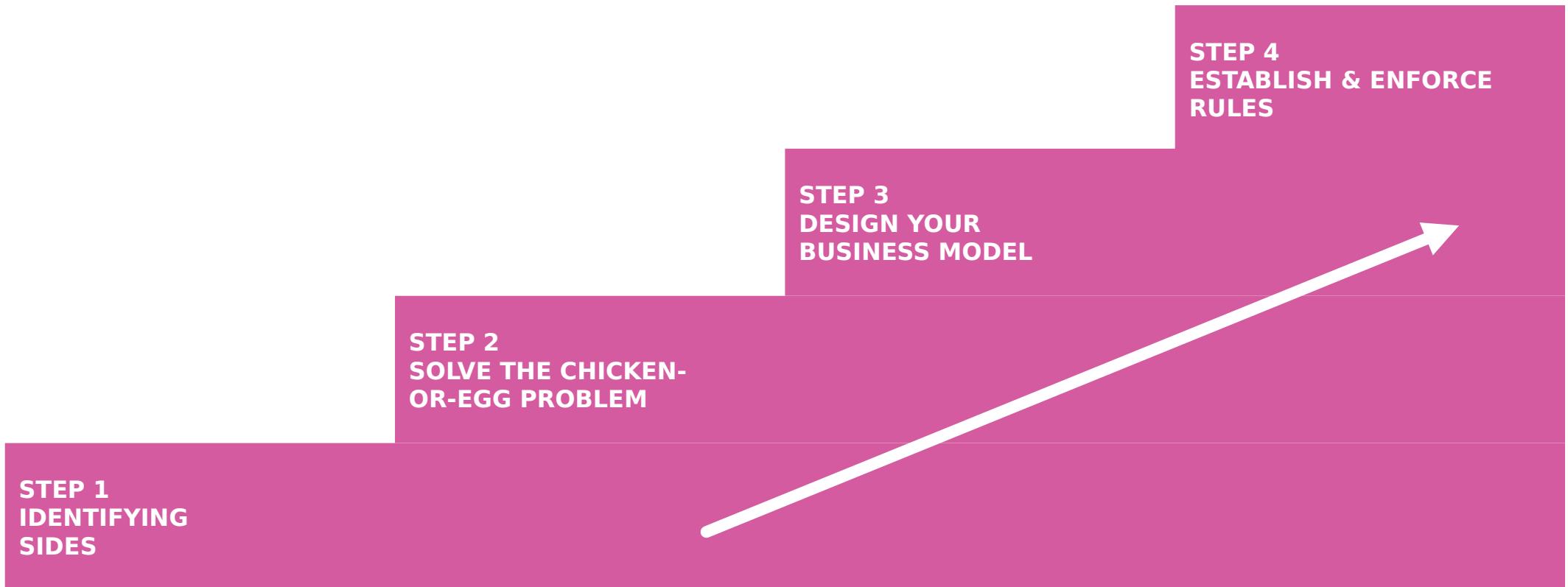
... and can also be used for other purposes (such as profiling users or entering new markets)



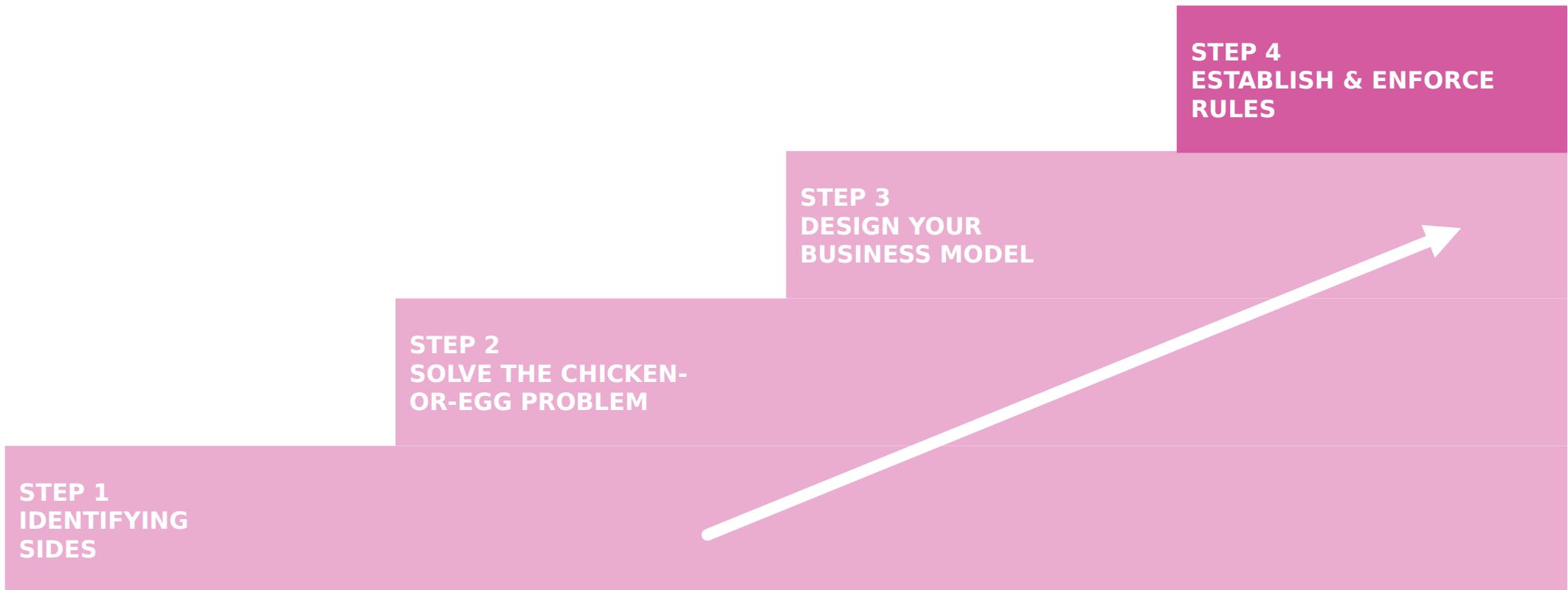
Accelerating mechanisms

=> Self-reinforcing sources of competitive advantage

# THE FOUR STEPS OF BUILDING A PROFITABLE PLATFORM BUSINESS



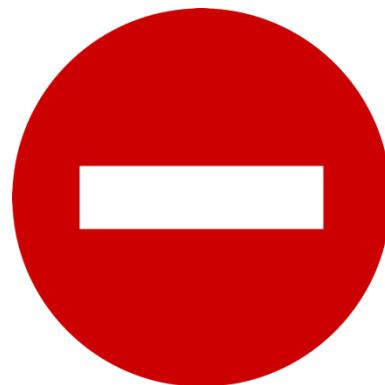
# THE FOUR STEPS OF BUILDING A PROFITABLE PLATFORM BUSINESS



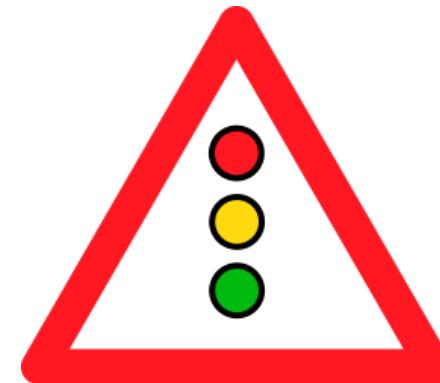
# PLATFORM GOVERNANCE = ECOSYSTEM RULES



**WHAT ACTIVITIES  
DO YOU ALLOW?**



**WHAT ACTIVITIES  
DO YOU PROHIBIT?**



**WHOM DO YOU ALLOW  
TO DO WHAT?**



## PLATFORM GOVERNANCE

## ABUSES OF POWER AND PLATFORM REGULATION



The Digital Economy has created new forms of [competition](#), new ways to [transact](#) and new ways to [innovate](#), giving birth to new forms of business organization:

**Digital Ecosystems & Platforms**, who operate using [new business models](#),  
sustain [new kinds of power](#),  
and generate [new kinds of failure: ecosystem governance failures](#)

# THE PARADOX OF DIGITAL PLATFORMS

- **Distributed** patterns of **value creation**
- But*
- **Centralized** modality of **value capture**



Gawer, A (2022) *Innovation: Organization & Management*  
Digital platforms and ecosystems: Remarks on the dominant organizational forms of the digital age



Gawer, A & Srnicek, N. (2022) *Report for the European Parliament*  
Online platforms : Economic and societal effects

# PLATFORM FIRMS ARE THE GOVERNORS OF PRIVATELY-GOVERNED ECOSYSTEMS

**From Decentralized modalities of value creation**

**From Foundations**  
...

**To Centralized modalities of value capture**

**To Bottlenecks**

**Gawer, A (2022) *Innovation: Organization & Management*  
Digital platforms and ecosystems: Remarks on the dominant organizational forms**  
Full Article



**Gawer, A & Srnicek, N. (2021) *Report for the European Parliament*  
Online platforms : Economic and societal effects**

## Perception of BigTech from “darling mavericks” ... to “monopolistic ogres”





The biggest platforms Apple, Amazon, Alphabet (Google), Microsoft, and Meta (Facebook) have become so large and valuable that they appear to be more influential and wealthier than many governments

\*Google and Facebook dominate 2/3 of digital advertising

\*Apple earns 90% of the world's profit in smartphones

\*Amazon has 40% of e-commerce in the US

They are shaping the AI landscape

# ONLINE PLATFORMS

## Economic and Societal Effects

Prof. Annabelle Gawer  
University of Surrey & Oxford University



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Online  
platforms:  
Economic and  
societal effects

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### STUDY

Panel for the Future of Science and Technology

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EPRS | European Parliamentary Research Service

Scientific Foresight Unit (STOA)  
PE 656.336 – March 2021

EN

# From Tech Darlings to Tech Backlash

1975

TUESDAY, MAY 20, 1975

## The New York Times

BUSINESS/FINANCE

53  
L



Charles F. Luce, chairman of Con Edison, conducting the annual meeting yesterday at the Felt Forum. Above him are charts showing parts of Con Edison's financial position.

### Con Ed Chief, at Meeting, Scores Taxes and Ecologists

By REGINALD STUART

Shareholders of the Consolidated Edison Company of New York were told yesterday at the annual meeting that earnings were expected to improve again this year, but that long-term recovery depended on a number of other factors, including greater use of nuclear energy and reduction in environmental standards.

Charles F. Luce, chairman of Con Edison, the nation's largest investor-owned power company, also said that the company's position as New York City's largest taxpayer affected the company's future significantly.

An audience of some 1,700

gathered at the Madison Square Garden Felt Forum gave Mr. Luce a mixture of compliments for steering the company away from its brush with financial disaster last year and more criticism and calls for his resignation.

Last year, when some 4,000 people attended the annual meeting, there were jeers and boos for management during a heated session that resulted from the company's omission of its dividend for the first time since 1885.

"As part of any list of priorities for the immediate future, I believe we must all be concerned about the financial health of our city," Mr. Luce

said. "The futures of all of many of the problems Con Edison has been facing in recent years. He said environmentalists had contributed to the company's financial crisis of 1974.

"To do so will require that our Mayor and City Council, as well as the Congress and the State Legislature, take stern and unpopular measures to bring the city's budget into balance," Mr. Luce said.

But beyond calling for budget cuts, Mr. Luce would not comment further on the subject. He did, however, renew his attack on the city's taxing practices, which cost Con Edison nearly \$400-million last year. He also criticized environmentalists whom he said caused

Continued on Page G2, Column 3

**Dow Index Edges Up 0.08  
To Recover Earlier Loss**

**HIGH COURT LIMITS  
INVESTOR APPEALS**

**Corporation Bonds  
Show Price Rises;**

**INVESTOR APPEALS**

### SEARS PROFIT OFF 60% IN QUARTER

Volume Contracts by 2%—  
Net Income Also Tumbles  
at the Allstate Group

By ISADORE BARMASH

From THE NEW YORK TIMES

CHICAGO, May 19.—Sears, Roebuck & Co., the country's largest retailer, told its shareholders today that its profits for the first fiscal quarter ended April 30 dropped 60.8 per cent from the year-earlier level on 2 per cent lower sales.

Arthur M. Wood, chairman and chief executive officer, reported that the period's sales continued "to reflect the sharp business slide which began in the fourth quarter of 1974."

However, he told about 700 shareholders at the annual meeting that consumer demand for goods "has begun to firm up in recent weeks from the depressed levels of the first quarter, and a gradual upturn is expected through the balance of the year."

#### Worsening Trend

Sales net in the quarter was \$99.6-million, or 32 cents a share, down from a restated \$129-million, or 82 cents a share, a year earlier. Sales fell to \$2.84-billion from \$2.85-billion last year. The Allstate Group of Companies, a Sears subsidiary and one of the country's largest automobile and property insurers, also had lower net income in the quarter of \$8-million, or 5 cents per share of Sears common, against \$8.7-million, or 32 cents a share.

The first-quarter report represented a worsening trend from the 1974 fourth quarter, when the giant retailer had a 47.7 per cent drop in earnings per share that were 4 per cent higher. Mr. Wood said that a 33.8 per cent decline a first-quarter operating earnings was due primarily to reduced sales at lower gross margins accompanied by moderate increases in selling and administrative expense.

Sales in the quarter, except for Sears operations in Texas and a few Western markets, have been soft in the Middle West, the East, the Southeast

### I.B.M. Antitrust Suit Opens With U.S. Seeking Break-Up

Justice Department  
to Use Company's  
Files in Evidence

By WILLIAM D. SMITH

The largest antitrust case in history, the United States vs. the International Business Machines Corporation, opened yesterday in Federal Court for the Southern District of New York with Justice Department attorneys indicating that a considerable portion of their attempted proof of monopolistic practices would come from I.B.M.'s own internal documents and data.

The civil suit, which was filed in January, 1969, as the last official act of the Justice Department during the Johnson Administration, charges I.B.M. with deliberately monopolizing the general purpose computer industry and asks that I.B.M. be broken up into "several discrete, separate, independent and competitively balanced entities."

The trial opened at 9:30 A.M. as Chief Judge David N. Edelstein walked into the crowded, wood-paneled courtroom on the first floor of the Federal Court building on Foley Square. The lengthy trial is expected to take a year to complete. Judge Edelstein, 65 years old, who will be the sole arbiter, is expected to take another year to reach his decision.

#### Statement Presented

A team of Justice Department lawyers, headed by Raymond M. Carbone and Joseph H. Walser, presented the Government's opening statement pointing to various areas in which the Justice Department would try to demonstrate monopoly power and the intent to use this power by I.B.M.

I.B.M. is charged with a violation of Section 2 of the Sherman Act, in order to convict I.B.M., the Government must prove both that a monopoly exists and that the defendant acted deliberately to create or continue the monopoly situation.

A major issue in the case is the question of what constitutes the relevant market. I.B.M. is



Frank T. Cary, I.B.M. chairman, in court yesterday

### Judge as a 'Hostage'

David Norton Edelstein

By TOM GOLDSTEIN

When David N. Edelstein was named to the Federal bench 24 years ago, he drove a Lincoln. Now he drives a compact Pontiac. "It's a story of riches to rags," the judge said. "My wife and I have been subsidizing this job out of private resources for years."

On his 65th birthday in February, he could have taken senior status on the District Court for the Southern District of New York and received a pension equal to his \$40,000-a-year salary.

But he did not, and yesterday he began presiding over what could become the century's most important antitrust trial, in which the International Business Machines Corporation is charged with



Associated Press  
"I've lived with the case... but that's desirable."



## How do online platforms create value?

- Facilitate connections, network effects
- Innovative business models
- Transactions
- Innovation

## Positive effects on consumers, business, competition & innovation

- ▶ High usage
- ▶ Most consumers and businesses benefit
- ▶ R&D investment

## Effects on employment

- ▶ New jobs, flexibility but also precarity
- ▶ Risks shifted to workers
- ▶ Workers ongoing surveillance and control
- ▶ Lack of collective organisation

## Effects on consumer & societal risks

- ▶ Lack of accountability
- ▶ Privacy risks & Online harms
- ▶ A surveillance society?
- ▶ Fake news, society polarisation, dangers to democracy?

## Negative effects on consumers, business, competition & innovation

- ▶ Centrality and dominance
- ▶ Gatekeepers, antitrust violations
- ▶ Killer acquisitions?

# PLATFORMS RESPONSIBILITY & LIABILITY

**Online Harm**

**Hateful Content**

**Internet  
addiction**

**Manipulation /  
Dark Patterns /  
Deepfakes**

**Opacity**

**Concentration of  
economic, media,  
data, and political  
power, potentially  
dangerous for  
democracies**

# PLATFORMS RESPONSIBILITIES



AS a few online platforms have achieved centrality and dominance, society is asking of them to act responsibly and fairly



# From Big Tech Backlash to New Regulation



IMD



- Intended to complement existing competition rules
- aiming to address conduct on an **ex-ante rather than ex-post** basis, more quickly, and to deal with practices which fall outside the competition rules (or that cannot be effectively addressed by them)

## WHO WILL BE SUBJECT TO THE DMA ?

### **GATEKEEPERS**

Who are **Gatekeepers**? There are 3 main cumulative criteria

- A size that impacts the internal EU market: turnover greater than 7.5 billion euros (in the EEA)
- The control of an important gateway: more than 10,000 yearly active business users established in the EU in the last financial year
- An entrenched and durable position

## DMA: CONSEQUENCES OF BEING IDENTIFIED AS A GATEKEEPER?

Carrying extra responsibilities, List of Do's and Don't

Up to 10% fines of the company total turnover worldwide or 20% in case of repeated infringement

## DMA'S SUMMARY LIST OF DOS & DON'TS

- **Freedom on app stores**
- **Prohibition of anti-steering practices**
- **Users' freedom to set defaults**
- **Restrictions on gatekeepers' use of data**
- **Access to gatekeepers' data**
- **Prohibition of self-preferencing**
- **Prohibition of tying**
- **Advertising transparency**
- **Interoperability**

# Many, many regulations!

*Navigate the EU's digital law and governance framework*

## Data & privacy



GDPR  
Regulation (EU)  
2016/679



Data Protection  
Law Enforcement  
Directive 2016/680



ePrivacy  
Directive  
2002/58



Data Act  
Regulation (EU)  
2023/2854



Data  
Governance Act  
2022/868



Open Data  
Directive  
2019/1024

## Cyber security



NIS 2  
Directive  
2022/2555



EU Cybersecurity  
Regulation (EU)  
2023/2841



Cybersecurity  
Act  
2019/881



Cyber  
Resilience Act  
2024/2847



Digital Operational  
Resilience Act  
2022/2554



Cyber  
Solidarity Act  
2025/38

## AI, trust & safety



EU  
AI Act  
2024/1689



Product Liability  
Directive  
2024/2853



General Product  
Safety Regulation  
2023/988



Machinery  
Regulation  
2023/1230



European Digital  
Identity Framework  
(eIDAS) 2024/1183



Crypto-assets  
Regulation  
2023/1114

## Platforms & media



Digital Markets  
Act  
2022/1925



Digital Services  
Act  
2022/2065



Copyright  
Directive  
2019/790



Platform Work  
Directive  
2024/2831



Digital Content &  
Digital Services  
Directive  
2019/770



Political  
Advertising  
Regulation (EU)  
2024/900

# In Europe: Many regulations !

**EU Digital Governance Snapshot**

*Navigate the EU's digital law and governance framework*

**Data & privacy**

- GDPR Regulation (EU) 2016/679
- Data Protection Law Enforcement Directive 2016/680
- ePrivacy Directive 2002/58
- Data Act Regulation (EU) 2023/2854
- Data Governance Act 2022/868
- Open Data Directive 2019/1024

**Cyber security**

- NIS 2 Directive 2022/2555
- EU Cybersecurity Regulation (EU) 2023/2841
- Cybersecurity Act 2019/881
- Cyber Resilience Act 2024/2847
- Digital Operational Resilience Act 2022/2554
- Cyber Solidarity Act 2025/38

**AI, trust & safety**

- EU AI Act 2024/1689
- Product Liability Directive 2024/2853
- General Product Safety Regulation 2023/988
- Machinery Regulation 2023/1230
- European Digital Identity Framework (eIDAS) 2024/1183
- Crypto-assets Regulation 2023/1114

**Platforms & media**

- Digital Markets Act 2022/1925
- Digital Services Act 2022/2065
- Copyright Directive 2019/790
- Platform Work Directive 2024/2831
- Digital Content & Digital Services Directive 2019/770
- Political Advertising Regulation (EU) 2024/900

Created by Oliver Patel  
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AI GOVERNANCE