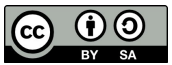
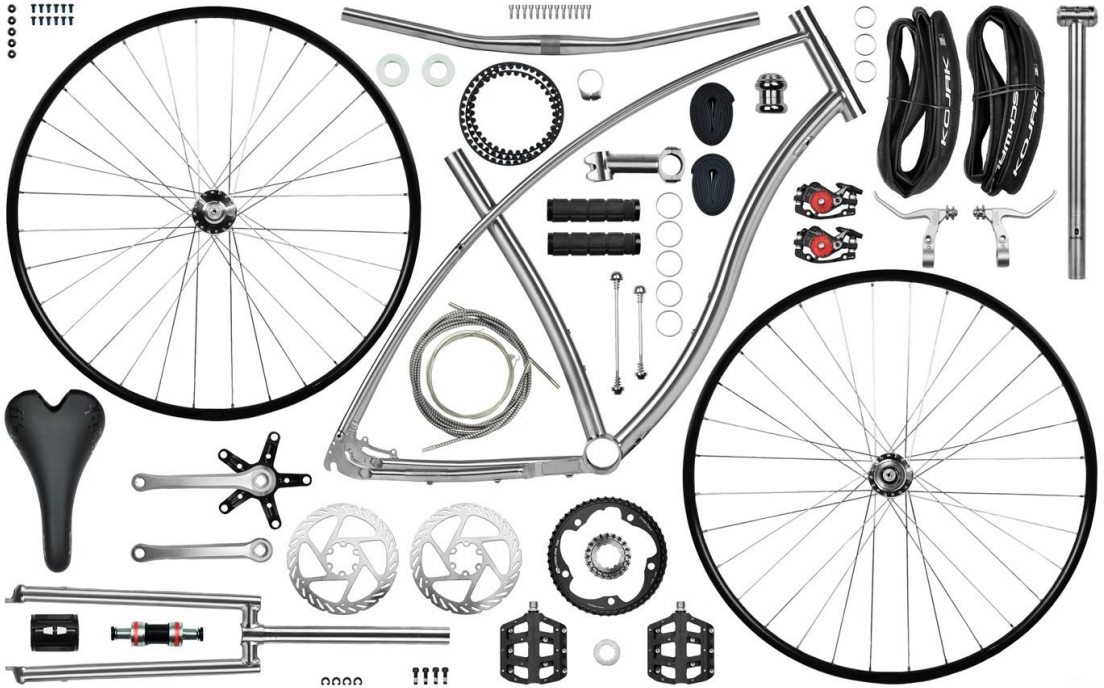
Standardization vs **innovation**: Can they coexist?

Dilemma of the Month 11/12/2025

Fabio Giovanazzi, Dominik Senti, Leo Piroska



USB TYPE C


KOJAK
KOJAK
KOJAK

EPIC
GAMES
STORE

Quote from **Martin Husovec**

The London School of Economics and Political Science
Lawyer representing Free Software Foundation Europe at the court hearing

Innovation does not exempt a company from regulation. The FSFE challenged Apple's attempt to invalidate a democratically adopted EU interoperability mandate for operating systems. Given that Apple's product is an ecosystem where value is created not only by Apple, but also by independent external developers and consumers who own the devices, coercing selected gatekeepers' products into interoperability is entirely legitimate and necessary.

Source: https://fsfe.org/news/2025/news-20251021-01.en.html

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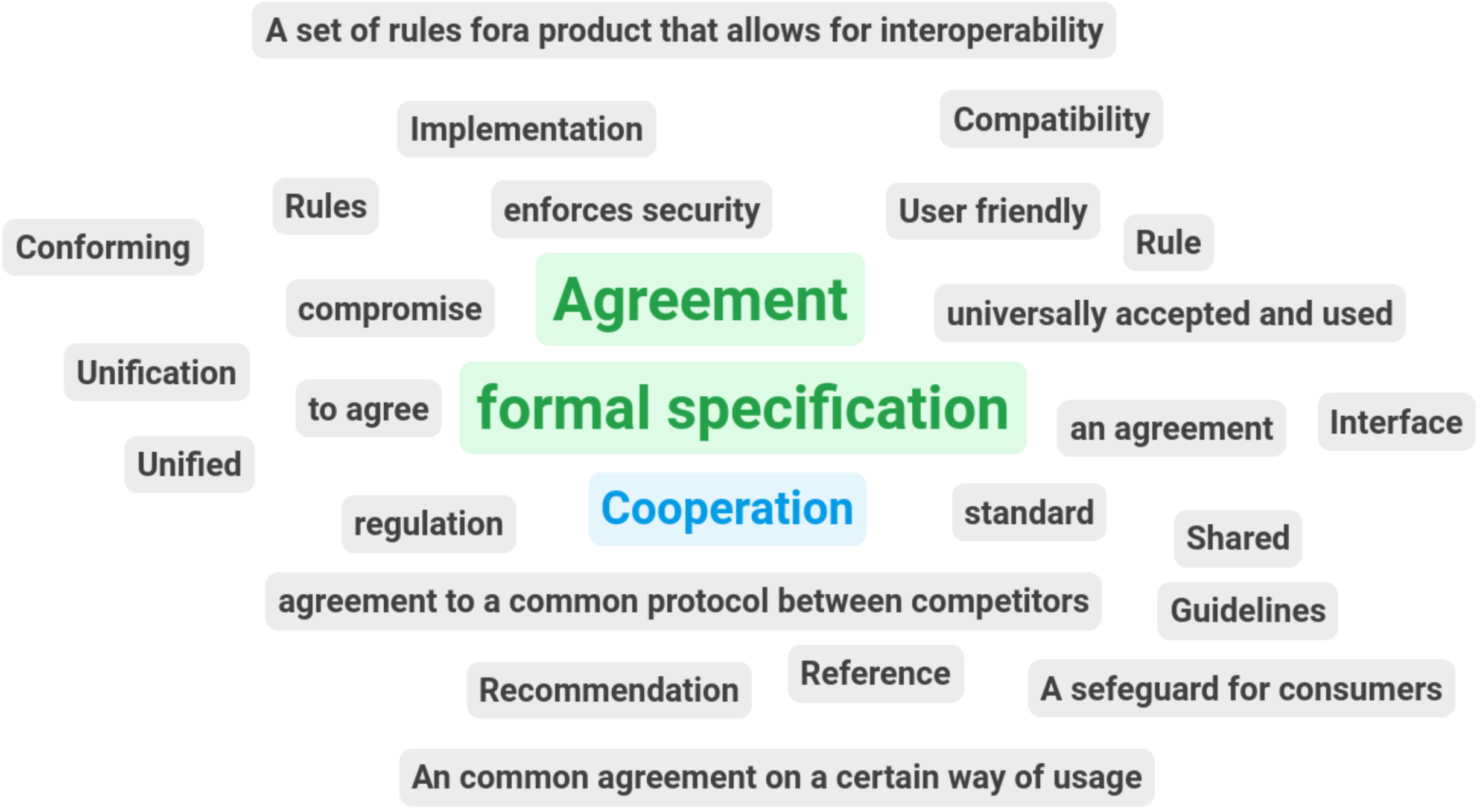
Source: https://www.libreoffice.org/assets/Conference/LATAM-Conf/Estandares.pdf
https://effi.org/blog-kai-2007-09-05-en/

What is a “standard”?


A set of rules fora product that allows for interoperability
Implementation
Compatibility
Rules
enforces security
User friendly
Conforming
Rule
compromise
Agreement
universally accepted and used
Unification
to agree
formal specification
an agreement
Interface
Unified
regulation
Cooperation
standard
Shared
agreement to a common protocol between competitors
Guidelines
Recommendation
Reference
A sefeguard for consumers
An common agreement on a certain way of usage

What is a “standard” in your research field?

Quote from **Raphael Zingg**

ETH professor (Mlaw), IPrime Legal AG
SIP: “Intellectual Property: an Introduction”

Intellectual property rights and the exclusivity they grant fundamentally clash with the necessity for interoperability and standardization. By holding the rights to key technological advances, a single company may block and sue competitors wishing to create compatible, but IP-infringing solutions.
In response, industries have decided to join force by adopting standards designed by standard setting organizations. By participating, these firms can have their innovations included in the standard, but must typically commit to license their standard-essential patents on fair, reasonable and non-discriminatory terms (so-called FRAND terms). Companies may also license their standard-essential patents to patent pools, which in turn will collect royalties for the pool’s hundreds or thousands of patents. A new market entrant may thus license at once all these patents – for instance licensing all necessary Wi-Fi and video streaming technology in one shot.
Legislators also try to impose rules to ensure interoperability. Under European design law for instance, the features ensuring the mechanical interconnection of two products cannot be protected (must-fit exception prohibiting for example the protection of the arrangement of metal pins of an electrical plug). In summary, while national IP laws consider interoperability as important, there is a great need for industry self-organization and commitment to standardization.

General functions of standards	Positive impacts on innovation	Negative impacts on innovation
Information	▸ Provide codified knowledge relevant for innovation ▸ Coordinate collaborative innovation activities	▸ Generate cost for standards screening ▸ Allow unintended knowledge spillovers to competitors by implementation of standards
Variety reduction	▸ Allow exploitation of economies of scale via standards ▸ Support critical mass via standards in emerging technologies and industries ▸ Create incentives for incremental innovation based on standards	▸ Reduce choice ▸ Support market concentration ▸ Push premature selection of technologies ▸ Limit incentives for radical innovation
Minimum quality	▸ Creating trust in innovative technologies and products at the demand side	▸ Promote market concentration
Compatibility	▸ Increase variety of system products ▸ Promote positive network externalities ▸ Avoid lock-in into old technologies	▸ Push monopoly power ▸ Foster lock-in into old technologies in case of strong network externalities
Insurance	▸ Serve as insurance against failure of radical innovation	▸ Create incentives for incremental instead of radical innovation

Source:

Standards and innovation, what does the research say?

https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100466.pdf

Information from **Martin Häuer**
Martin-Luther Universität Halle-Wittenberg
Works on open source hardware

Types of standards

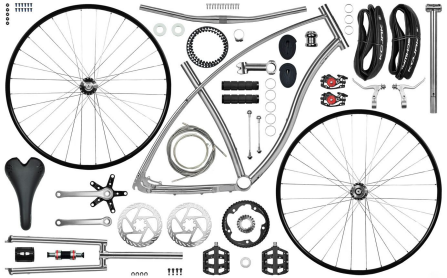
De facto

Consortium-based

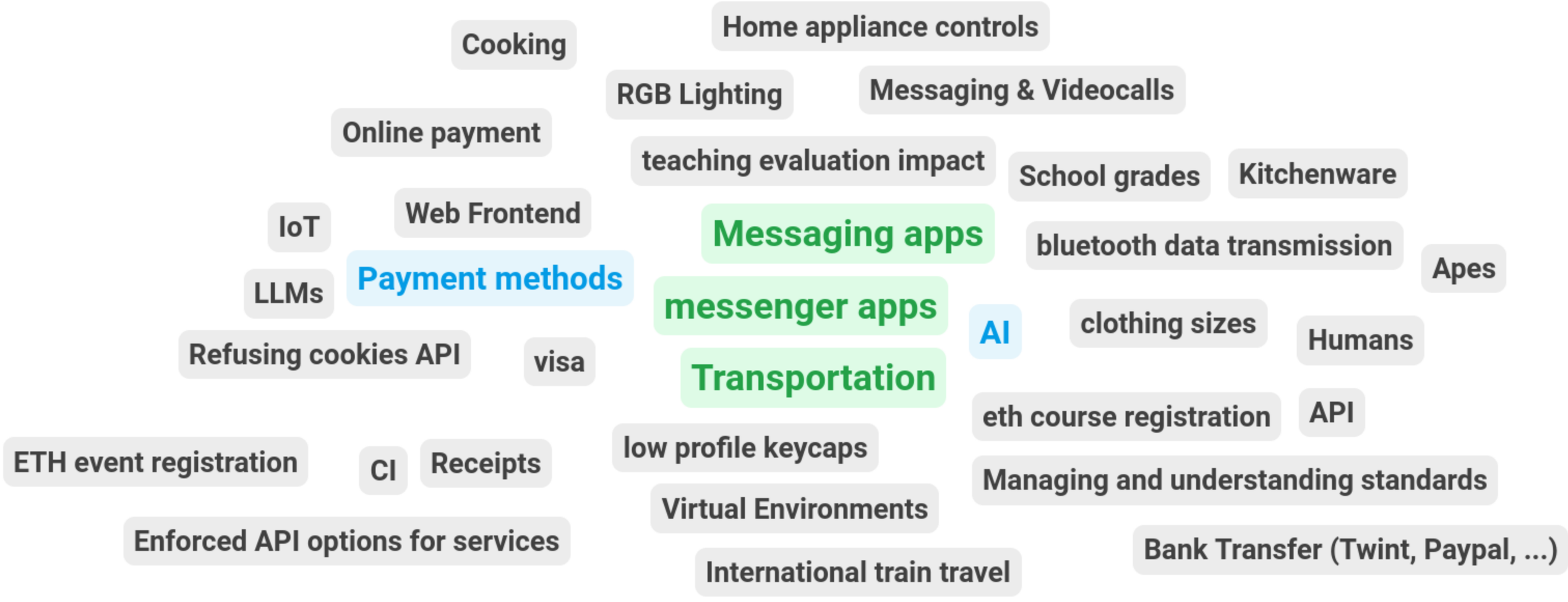
De jure

Open

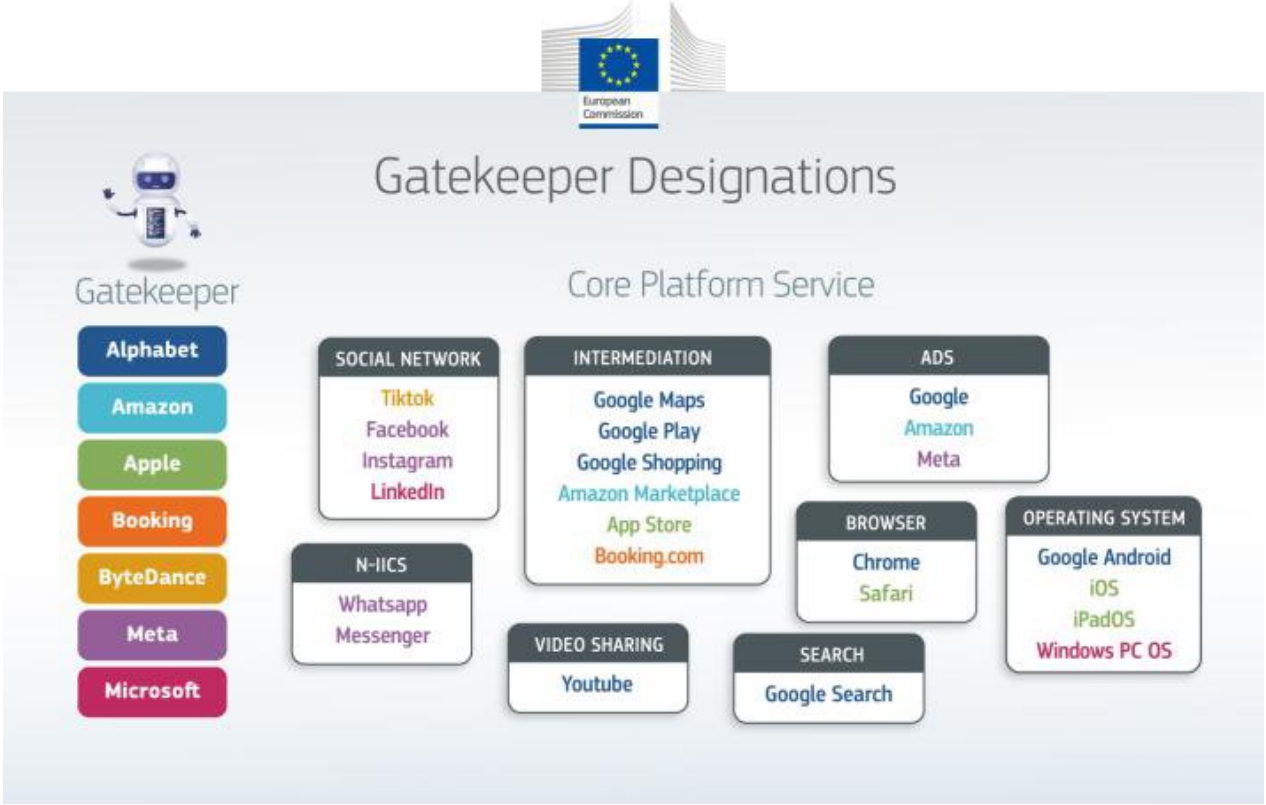
Name some **advantages** and **disadvantages** of a specific standard



Where do you feel like a standard is **missing**?


Cooking
Home appliance controls
RGB Lighting
Messaging & Videocalls
Online payment
teaching evaluation impact
School grades
Kitchenware
Web Frontend
IoT
Messaging apps
bluetooth data transmission
Apes
Payment methods
LLMs
messenger apps
AI
clothing sizes
Humans
Refusing cookies API
visa
Transportation
eth course registration
API
low profile keycaps
ETH event registration
CI
Receipts
Managing and understanding standards
Virtual Environments
Enforced API options for services
Bank Transfer (Twint, Paypal, ...)
International train travel

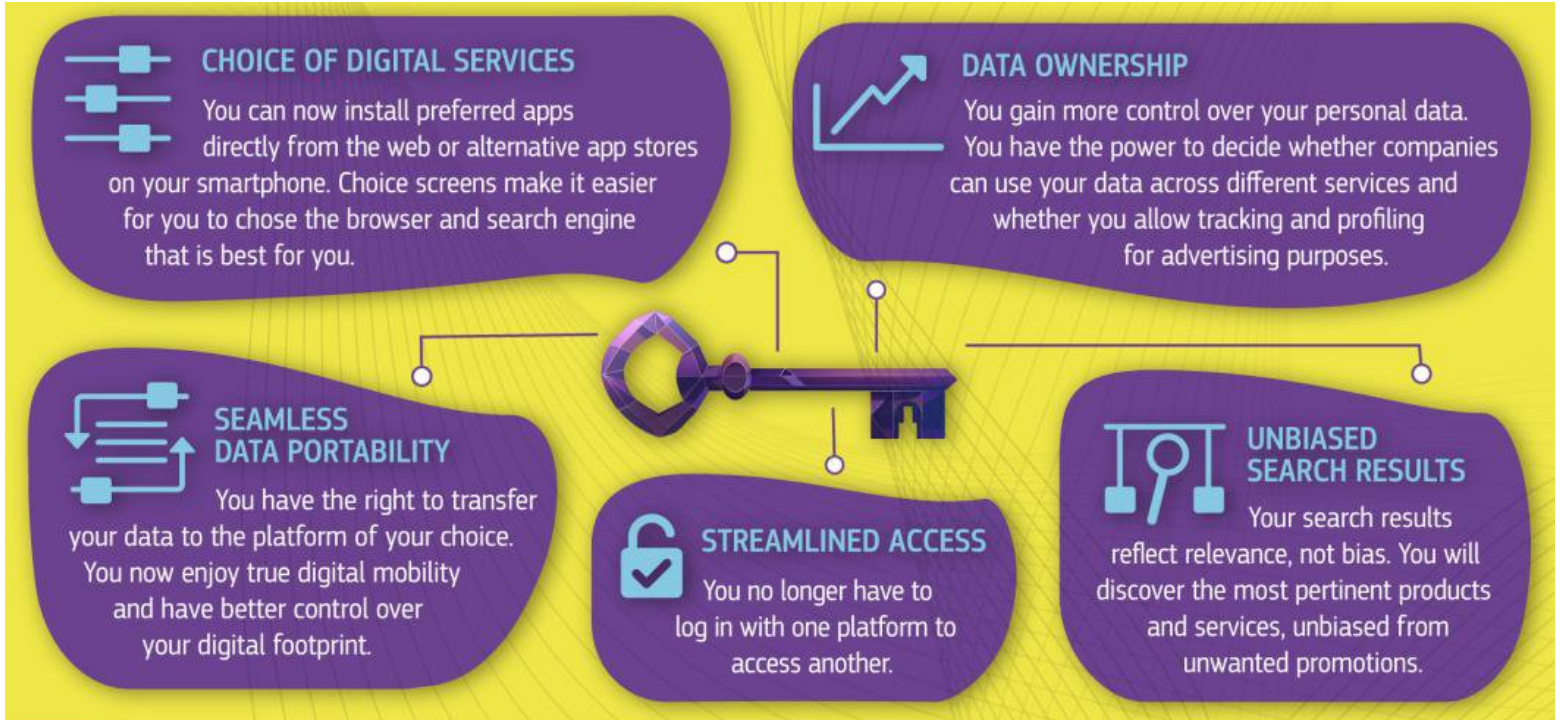
EU’s Digital Markets Act (DMA)



Source:

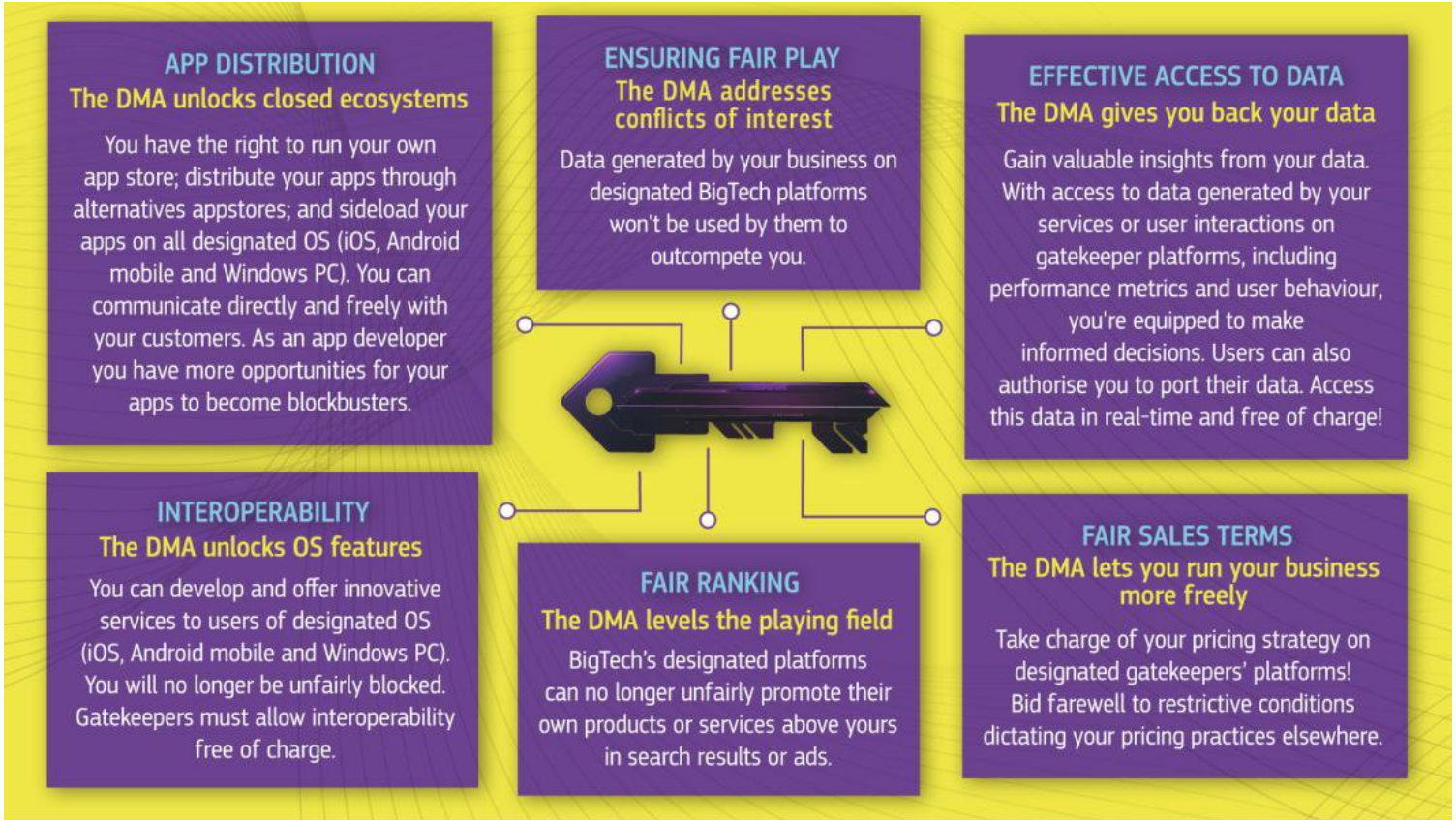
https://digital-markets-act.ec.europa.eu/gatekeepers_en

DMA for consumers



Source:
https://digital-markets-act.ec.europa.eu/about-dma_en

DMA for businesses



Source:
https://digital-markets-act.ec.europa.eu/about-dma_en

How **mature** should a market be for a standard to become **mandatory**?

How to allow innovation that acts in the **public interest**, and prevent **anti-competitive** practices (like *vendor lock-in*)?