Hertie School
Jacques Delors Centre

Policy Brief

# Data sharing: A European challenge?

## Why the EU should make data sharing a piority

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#Data
#Sharing
#GDPR

**Data sharing refers to transactions in which personal or non-personal data from the public or private sector is made available for other organisations (public or private) for use and re-use. Data sharing can occur for free or data can be made available for profit. Data sharing in the EU has a lot of untapped value potential both for individuals and for the economy at large.**

**New rules and institutions that can enable data sharing in a trusted manner and give citizens more control over when and how they share their private data need to be built at the European level.**

**The question is how? The EU should work towards a stronger culture of data sharing and help build the necessary infrastructure with a focus on two areas:**

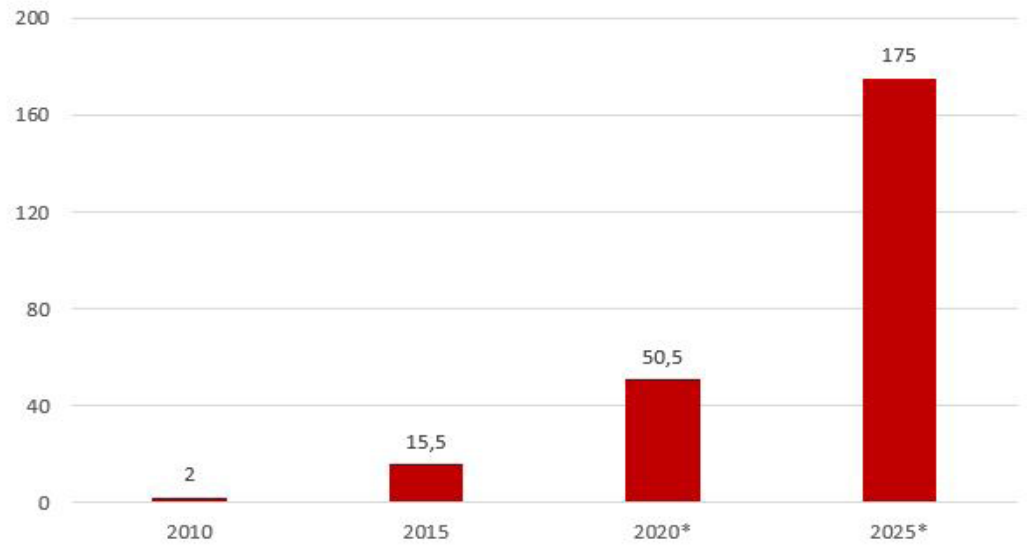
- **Building infrastructure for data sharing and access for companies**
- **Extending the right to portability of personal data (Art. 20 GDPR)**

## 1. Data at the centre of value creation

Data, personal or unpersonal, are one of the most important sources of value creation in the digital economy. They are a key input factor for innovative business models and indispensable for the development of artificial intelligence (AI) applications. Abundant availability of personal data has fuelled the business models of the tech platforms that have dominated the digital economy in the last decade. Non-personal data, such as process or logistics data, can help increase a firm's productivity and enable new business models around industrial services.

The EU Commission estimates that in 2020, the data economy will account for 4% of EU GDP. Yet, this is only the beginning. The future potential of data in the EU for new value creation and business models is considerably higher: The amount and quality of data which will be generated in the next five years will by far surpass current levels. Technical developments point to an explosion in the amount of data generated around the world. The increased data transmission capacity brought about by 5G and data-generating sensors and devices connected to the Internet of Things are the main drivers of this growth. These new technologies will not only enable novel business models and innovations such as autonomous or semi-autonomous driving but also generate so much new data that 175

zettabytes could be created worldwide by 2025 compared to around 50 zettabytes in 2020 and just two in 2010. (One zettabyte is $10^{21}$ bytes.)




*Volume of data/information created worldwide from 2010 to 2025 (in zettabytes), 2020 and 2025 forecast. Source: IDC.*

But the key question is: How may we use this deluge of data most efficiently in the future? One important step would be to make sure that datasets can be shared and pooled. This Policy Brief explains why this would be a good idea and how the EU could improve data sharing practices through concrete regulatory steps.

## 2. Why the EU should make data sharing a priority

The EU lost the "first half" of the digital transformation from 2010 to 2020, which revolved primarily around data-centric services for consumers, mobile devices and the cloud. Companies which championed gathering, analysing and organising streams of personal data and building platforms around them have reaped the economic benefits. As a result of this fundamental transformation of value creation around the globe, seven data-driven technology giants are now among the eight most valuable companies in the world in terms of market capitalization.

All these companies are American or Chinese in origin. No comparable tech giant or dominant online platform has developed in the EU over the last decade. To pessimists, this loss of data-driven value creation and absence of large tech companies amounts to no less than the EU slowly losing its digital sovereignty and autonomy to technologically superior countries. Critical infrastructure for digital services like cloud infrastructure or data analysis tools is mostly being imported as European companies are unable to deliver such services competitively. The central communication and knowledge management platforms of the world are non-European in origin, leading to fears of a take-over of political discourse by a culture that does not reflect European values. For some, Europe risks becoming a "digital colony": a supplier of data and a market for digital services as market-breaking/-creating innovation is developed elsewhere.

There is reason to believe, however, that this outlook may be too gloomy. Most advances in the data economy so far were achieved in end consumer markets and around cloud-based services.

The current and ongoing phase of the digital transformation predominantly affects the business to business sector and "traditional" industries like manufacturing. The manufacturing sector in the EU has, however, retained a strong economic presence, turning more and more into a services provider in recent years. Innovative manufacturing companies in the EU use the data generated by their products to sell adjacent services - for example, maintenance and repair of machinery. If the European Union manages to carry this strong position into the era of the Internet of Things and ubiquitous connectivity it is all but certain that it will lose the technological race again to non-European tech giants.

A much higher number of connected objects like machines, cars or streetlamps will also make extensions to cloud computing necessary. Much of the data generated by them will have to be processed in a decentralised way to ensure the fast transmission of data - for example between multiple autonomously driving cars on a road. Edge computing, distributed and decentralised processing of data, is predicted to overtake current datacentre-based cloud computing as the main processing base in the next ten years as regards the amount of data processed. This is an opportunity for European providers to tackle the current dominance of non-European cloud providers without having to directly challenge them.

Taken together, these two trends, edge computing and a highly productive manufacturing sector, could lead the EU back on top of the technology race and improve Europe's strategic autonomy. More pooling and sharing of data are, however, a prerequisite for such a successful transformation.

Data sharing refers to transactions in which personal or non-personal data from the public or private sector is made available for other organisations (public or private) for use and re-use. Data sharing can occur for free or data can be made available for profit.

Data sharing in the EU has a lot of untapped value potential both for individuals and for the economy at large. For private citizens, there are still limited possibilities to voluntarily transfer personal data from one service to the other. Companies often face distrust, legal uncertainty or technical problems if they want to share or pool data with other companies. Public data collected by government agencies or in publicly funded projects is also often not made easily available to researchers or start-ups.

With the General Data Protection Regulation (GDPR) the EU now has a regulatory framework based upon which a culture of data-sharing can be established. Few people currently fully trust companies over the way they handle their private data. The GDPR has offered possibilities for individuals to regain control over the terms on which third parties get access to personal data. However, there is currently no regulatory and technical infrastructure available that could make these possibilities a reality.

## 3 . How the EU should approach data sharing

New rules and institutions that can enable data sharing in a trusted manner and give citizens more control over when and how they share their private data need to be built at the European level.

The question is how. Like other input factors data contributes to value creation. At the same time, data cannot be easily compared with other input factors such as oil or labour. It has very different qualities. For example, data is non-rivalrous and non-material. It can be easily transferred, stored and copied instead of being used up like energy or used locally like manual labour. This has regulatory consequences concerning the collection and use of data, commercial or non-commercial.

Data sharing is, however, not only a regulatory matter but also a socio-cultural practice that has yet to be learned and whose benefits are yet to be appreciated by individuals, companies and

administrations. Cultural barriers in particular must be overcome to make the pooling and sharing of process data more acceptable. Companies often fear that they are giving away assets to competitors if they share too much of their data. Overcoming these barriers will only be possible by building regulatory systems that enable mutual trust and eliminate legal risks. Concretely, a new type of digital infrastructure in the form of data sharing platforms is needed where sharing can take place in a trusted environment. These new infrastructures are required both for sharing of data between private companies and to give citizens more control over how and when they share their data with private companies.

## 3.1 Building new infrastructure for data sharing and data pooling

Numerous private initiatives for data pooling and sharing have already been started in this vein across various industries, academia and administrations in recent years. Yet they have not been able to make data sharing a mass phenomenon for either personal or non-personal data. It is becoming more and more apparent that a purely private sector driven infrastructure for sharing data is not enough as long as there is an absence of clear and enforceable rules and standards for data access and sharing. Today, this absence reduces legal certainty and overall trust in data sharing. Just as an infrastructure of roads and motorways is necessary for the smooth operation of private logistics companies, an existing infrastructure that makes data sharing easier, legally secured and in some cases profitable will be required first to enable large-scale data sharing. To overcome the lack of this infrastructure and start such a virtuous cycle, member states and the EU either must provide the infrastructure by themselves, which would be expensive and complicated, or build the regulatory foundations for its creation by private actors – a preferable course.

The EU should work towards a stronger culture of data sharing and help build the necessary infrastructure with a focus on two areas:

- Building infrastructure for data sharing and access for companies
- Extending the right to portability of personal data (Art. 20 DSGVO)

## 3.2 Data access and sharing of non-personal data between companies

There are many benefits from data sharing for European companies. Sensor-generated data in the Internet of Things can, for example, enable machines in a network to automatically request spare parts from suppliers if sensors detect signs of fatigue. The data generated can, what's more, be used by suppliers to improve their services, creating a virtuous circle of product and process improvement for both companies. Most of the data could also be made freely available for academic researchers.

Such data sharing is still not very common across the EU despite many companies sitting on large unused data troves. Besides a lack of awareness, it is above all a lack of trust as a result of lacking legal certainty that prevents more data sharing. A typical problem is also the lack of interoperability or readability of various data formats.

A European infrastructure for sharing of data could remedy this situation. A European approach would have several advantages:

- Unified rules. European industry platforms for data sharing would be backed by unified access rules and standards that are binding on all participants.
- Fair access and competition. A European infrastructure could ensure that smaller companies with less market power are not squeezed against the wall by larger companies

forcing them to share their data in an asymmetric way with larger platforms.

European data sharing platforms would not have to be set up and operated directly by the EU. It is also conceivable that the EU could legislate to create a strictly controlled market for providers of data sharing infrastructure. Providers of technical infrastructure would then have to get themselves certified by the EU as trusted data intermediaries. A certificate should be used to prove that the data intermediary adheres to the necessary standards and does not exclude stakeholders from the platform or enable illegal collusion between companies via excessive data sharing. Individual companies could then either give access to specific datasets or go into sharing agreements with specific companies using the provider's infrastructure.

## 3.3. More data portability for private individuals

The GDPR created with the right to data portability in Art. 20 of the GDPR – that is, a right for individual data subjects to take their own data from one data processor to another when they switch service providers, wherever this is technically feasible. The data must be provided in machine-readable form and in a standard format.

This right has the potential to become very beneficial to individual Europeans and the economy at large.

- Better services. If private individuals can take their data from one service to the other, they will be able to access personalised services more easily.

- Less lock-in. Better portability of data could mitigate the lock-in effects prevalent on many platform markets today. A lock-in often occurs when users do not have good incentives to change a provider, for example a music streaming service, because all their data, for example about musical preferences, would be lost when switching providers.

- Competition. Weakening lock-in effects enhances competition between online platforms and could help to reduce the current market dominance of a few platforms in many relevant markets.

Today, such advantages are mainly theoretical as the right to data portability has hardly been enacted used so far. Users usually only receive a pdf-document with their personal data, and, with some exceptions, there are no predefined interfaces that would give companies continuous access to detailed personal data. The GDPR grants the right to portability in principle, but deliberately eschews any concrete specifications for its implementation.

To alleviate this situation two measures should get priority.

- Enact legislation for sector-specific data portability. So far, the Payment Services (PSD2) Directive is the only European regulation to render personal data sharing potentially more widespread upon consent. The directive obliges financial service providers to have technical solutions ready that enable customers to take data previously stored with one company, including payment histories, to another service provider. Similar sectoral solutions would also have to become standard in the mobility, health or entertainment sectors in order to make portability and data sharing a truly cultural practice.

- Build trustworthy data intermediaries to give citizens more control over data sharing. Many concepts for data intermediaries (data trusts, fiduciaries) are under discussion, but they all have one basic idea in common: the individual user should be able to retain control over the use of his or her own data, even if such data are processed by priva-

te companies. For example, a user could have personal data, including browsing history or purchase history, managed by an intermediary that acts like a fiduciary. If a third company then wishes to have access to this data, it must submit a request to the data intermediator that stores the personal data and, depending on the user's preferences, release certain data (via a meta-consent) or ask for specific consent to transmit personal data.

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