

WORKINGPAPER

November 2023

Data Governance and Public-Private Partnership Data Sharing Models

Examples from Vienna within the Austrian and European Context

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This paper was presented at a joint expert event co-convened by UNU-CPR and the International Chamber of Commerce on 8 November 2023 in New York.

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1. Executive Summary

Introduction

In this working paper, we highlight aspects of policymaking and implementation in the field of data governance at the European Union level, as well as on the national Austrian and federal Viennese level, including examples from public-private data-sharing models. Since 2020, regulatory frameworks on the European level more than ever determine many national and local approaches to data governance, data sharing, and the relationship between public and private actors. Thus, in this working paper, we have put a special emphasis on EU regulatory approaches. These supranational regulatory frameworks put Europe on a different trajectory than other continents and it turns the discourse in Europe from a mainly defensive one (GDPR; cautious approaches in data use) to a regulated space of (hopefully) active use and sharing of public and private data. The executive summary strives to provide an overview over the most relevant aspects of the working paper.

Digital Sovereignty

The principle of digital sovereignty underlies many current regulatory developments in the EU, ultimately aiming to achieve digital strategic autonomy. To summarize shortly, the term digital sovereignty is strongly linked to European values and universal basic rights in the digital era, and therefore is a means to implement liberal and democratic values at the very same time as individual self-fulfillment in the digital realm. Translated into economic terms, digital sovereignty aims at empowering economies to produce self-determined digital services as well as being able to deploy digital services in a self-reliant manner.

Selected European Regulations and Data Sharing-Models

Public Sector Information

In Austria the PSI Directive was implemented by the Federal Act on the Re-use of Information held by Public Sector Bodies (Information Re-use Act - IWG). The new version of the Austrian IWG was passed on 6 July 2022. With this revision the government wants to facilitate the re-use of published documents held by public bodies and public enterprises, as well as research data, and aims at encouraging the creation of new information products and services. The new law, as well as several related amendments, obliges the bodies concerned to make dynamic data available, in principle, immediately after collection by means of an application programming interface (API).

Digital Services Act (DSA)

Some of the DSA's main aims are to force platforms to ensure algorithmic transparency, to strengthen user's rights, and to reduce disinformation. The DSA wants to control dominant digital corporations. It defines various systemic risks to the EU in Article 34/1, such as the violation of

the European Charter on Fundamental Rights, of the right to protection of minors, and the violation of potential threats to societal debate, election processes, and public security. To provide scientific support in assessing algorithmic systems, the European Commission has launched the European Centre for Algorithmic Transparency (ECAT).

Data Governance Act (DGA)

The DGA lays the foundations for public data re-use and therefore data sharing between public and private actors across sectors and countries, including the European Data Spaces. This includes the granting of access to or re-use of certain categories of data, like commercially or statistically-confident data or protected personal data. Amongst others, each EU Member State must define conditions for data re-use, guarantee that the protected nature of data is preserved, and that intermediaries and other parties comply with the regulations. Moreover, on the national level, a governance model for public data and interoperability standards must be developed.

European Data Spaces

The European Strategy for Data aims at creating a single market for data that will ensure Europe's global competitiveness and data sovereignty and foresees the creation of common European data spaces, for which appropriate legal and technical framework conditions are created. The establishment of the very diverse data spaces takes place either on a sectoral basis (health, agriculture, mobility, tourism, energy, etc.) or on a regional basis of specific use scenarios (use cases).

Data Excellence and Data Sharing Examples in Vienna

Digital Humanism – i.e. putting people and successful societal institutions at the centre of the digital world – is the guiding principle to digitalization in the City of Vienna. As such, it has also permeated the City of Vienna's approach towards data governance, with the underlying principles of self-determination, and (digital) sovereign design, as opposed to the prevailing system of monetization of data at any cost. This also translates into the City of Vienna's approach towards **Open Data**. Up until September 2023, more than 600 datasets have been published on the City of Vienna's open data portal. The city's administration provides access to classified data, documents, and services in machine-readable form, free and at no charge.

Public-Private Data Sharing Partnerships in Vienna

In this working paper we elaborate on four examples for public-private data sharing partnerships on different levels. We would like to highlight the following two examples.

Vienna Tourist Board with Vienna Airport: "Data Sharing for Mutual Benefit"

Building upon a long-lasting cooperation between the Vienna Tourist Board and the Vienna Airport, based on trust and mutual respect, data sharing and aligned agenda planning have been cultivated for many years. Since the outbreak of the Covid pandemic, the Vienna Tourist Board

has been sourcing data on flight connectivity and making these insights easily available for local stakeholders via a publicly-available dashboard and/or ongoing communication formats. Stakeholders can use data on scheduled flights to adapt their marketing campaigns and products, which fuels demand for the airlines, and as a consequence, the airport as well.

City of Vienna and the Evolving Platform Economy: “Cooperation by Coercion”

As part of the informal ‘alliance on short term rentals,’ formed by 19 European cities, including Vienna, the City of Vienna started fiscal regulation of short-term rentals via Airbnb through the Vienna tourism promotion law in 2016. Touristic platforms had to ensure compliance with data reporting obligations on overnight stays, as the main problem for public authorities in the emerging digital short-term rental market was that they had no access to platform data; and without them there is no basis for efficient administrative enforcement. Back then, on the European level, digital markets were still regulated merely by the E-Commerce directive from 2001. A stronger regulation of the smartphone-driven digital platform economy on a European level only started with regulation proposals such as the Digital Markets Act and the DSA in 2020. In 2018, Vienna built on its existing “Wohnzonen” (residential zones) regulation in its Building Code with the goal to restrict short-term rentals in those zones to support the purpose of housing. The Building Code will be amended in 2023 and will enable short-term letting for an annual duration no longer than 90 days and introduce mandatory approval procedures for short-term letting longer than 90 days. As the first “plug-in” law to the DSA, and to prevent legal fragmentation across the EU, the European Commission has started working on a proposal for a regulation to harmonize data exchange in the field of short-term rentals. This is an example not for voluntary cooperation, but rather for ‘cooperation by coercion.’

2. Introduction

2.1 Aim of the Working Paper

The United Nations High-Level Advisory Board (HLAB) Report “A Breakthrough for People and Planet”¹ calls for the establishment of a data hub underpinned by a mutual commitment framework, which in particular, is aimed at improving data flows from the private to the public sector. In this paper, upon invitation by the United Nations University Center for Policy Research, we highlight aspects of policymaking and implementation in the field of data governance at the European Union level, as well as on the national Austrian and federal Viennese level, including examples from public-private data-sharing models.

¹ High-Level Advisory Board on Effective Multilateralism (HLAB), *A Breakthrough for People and Planet: Effective and Inclusive Global Governance for Today and the Future* (New York: United Nations University, 2023). Accessible at: https://unu.edu/sites/default/files/2023-05/highleveladvisoryboard_breakthrough_fullreport.pdf

While we were asked to provide strategies and examples from the local level, since 2020 regulatory frameworks on the European level determine many national and local approaches to data governance, data sharing, and the relationship between public and private actors. This is remarkable in two ways: first, it puts Europe on a different trajectory than other continents, and second, it turns the discourse in Europe from a mainly defensive one (GDPR; cautious approaches in data use) to a regulated space of (hopefully) active use and sharing of public and private data.

2.2 Digital Sovereignty

To understand current developments and the approach taken in Europe and Austria, specifically towards data governance, it is worth taking a brief look into the principle of digital sovereignty, which underlies many current regulatory developments in the European Union, that ultimately aim at achieving digital strategic autonomy. Finding clear and straightforward definitions for this concept is, however, not easy. In a briefing of the European Parliamentary Research Service for the European Parliament from July 2020, digital sovereignty is being termed “a means of promoting the notion of European leadership and strategic autonomy in the digital field.”² The briefing further explains that concerns raised by citizens, European businesses, and Member States of the European Union regarding their gradual loss of control over data, their capacity for innovation, and over their ability to shape and enforce legislation in the digital environment due to the influence of non-EU tech companies, have sparked a wave of support for political and regulative measures designed to enhance Europe's strategic autonomy in the digital sphere. The author thus defines digital sovereignty as the EU’s “ability to act independently in the digital world and [that it] should be understood in terms of both protective mechanisms and offensive tools to foster digital innovation (including in cooperation with non-EU companies).”³

Many authors and renowned institutions have taken turns at finding appropriate definitions and contextual explanations for the EU’s aspirations towards digital sovereignty. The term sovereignty of course also has a legal dimension and means a legal entity’s capacity for self-reliance and independence from external power (in international law, sovereignty thus means independence from other States). In democratic societies, (legislative) sovereignty is associated with the principle of the rule of law.

Thus, one of the main reasons why digital sovereignty as a term is so hard to grasp, is the fact that it is used to enact a comprehensive return to European values and universal basic rights in the digital era, and therefore is a means to implement liberal and democratic values at the very same time as individual self-fulfillment in the digital realm.⁴

² Tambiama Madiaga, *Digital sovereignty for Europe* (European Parliamentary Research Service Briefing, 2020). Accessible at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/651992/EPRS_BRI\(2020\)651992_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/651992/EPRS_BRI(2020)651992_EN.pdf).

³ Ibid.

⁴ Julia Pohle, *Digital Sovereignty: A New Key Concept of Digital Policy in Germany and Europe* (Berlin: Konrad-Adenauer-Stiftung, 2020). Accessible at: <https://www.kas.de/documents/252038/11055681/Digital+Sovereignty.pdf/fbf01b14-3c8b-4322-2676-a6eb75d9eea0?version=1.0&t=1629189475544>.

In a paper published by the Konrad-Adenauer-Stiftung, Julia Pohle, whilst delineating the different meanings attached to the concept of digital sovereignty, makes a decisive clarification of the term:⁵ “digital” in the concept of “digital sovereignty,” according to Pohle, refers to the “macrosocial transformation process of digitalization.”⁶ Most importantly, it is “the spread of digital connectivity and the marked increase of digital data collections and cross-border data flows,” that represent challenges to traditional sovereignty concepts against the background of globalization, platform capitalism, or surveillance capitalism.^{7,8} Pohle breaks down digital sovereignty into three main recurring dimensions of implementation: State, individual, and economic dimension. Within the economic dimension, Pohle allocates policies which aim to ensure the sovereignty of the States by protecting data and technical infrastructure. Thus, the German Federal Ministry for Economic Affairs and Energy (BMWi), in its “Digital Strategy 2025,”⁹ aims to attain “data sovereignty” in Germany by protecting data against misuse as well as ensuring that users and consumers are able to make self-determined (therefore sovereign) decisions about the use of their data.

Translated into more economic terms, digital sovereignty therefore aims at empowering economies to produce self-determined digital services, as well as being able to deploy digital services in a self-reliant manner. For companies, States, and consumers to be able to act in a self-determined manner, value creation from data-driven business models has to be kept within Europe by creating an ecosystem of partners and contributors.¹⁰ From the perspective of the authors, this ambition for digital sovereignty in itself has turned data-sharing models between private and public entities into a higher good, regardless of the concrete ability of such models to generate value creation. See also our contribution to UNU on global digitization, public goods, and Digital Humanism.¹¹

2.3 Levels of Governance

European Union

The European Union, as a union of 27 countries, is a regulatory body of very considerable size, and as such per definition very well suited to shape the regulation of the online economy. In February 2020, the European Commission presented the *European Strategy for Data*,¹² which

⁵ Julia Pohle, *Digital Sovereignty: A New Key Concept of Digital Policy in Germany and Europe* (Berlin: Konrad-Adenauer-Stiftung, 2020). Accessible at: <https://www.kas.de/documents/252038/11055681/Digital+Sovereignty.pdf/fbf01b14-3c8b-4322-2676-a6eb75d9eea0?version=1.0&t=1629189475544>.

⁶ Ibid.

⁷ Frank A. Pasquale, “Two Narratives of Platform Capitalism,” *Yale Law & Policy Review Vol 35 Issue 1 (2016): 309-319*. Accessible at: https://digitalcommons.law.umaryland.edu/fac_pubs/1582/.

⁸ S. Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (London: Profile Books, 2018).

⁹ Bundesministerium für Wirtschaft und Energie, *Digitale Strategie 2025* (n.d.) (Berlin: Hirschen Group GmbH, 2016). Accessible at: https://www.bmwk.de/Redaktion/EN/Publikationen/digitale-strategie-2025.pdf?__blob=publicationFile&v=1.

¹⁰ BITKOM, *Digitale Souveränität: Positionsbestimmung und erste Handlungsempfehlungen für Deutschland und Europa* (Berlin: BITKOM, 2015). Accessible at: <https://www.bitkom.org/sites/default/files/file/import/BITKOM-Position-Digitale-Souveraenitaet.pdf>.

¹¹ M. Stampfer, *Digital Humanism: In Support of Global Public Goods*, UNU Working Paper (United Nations University, 2022).

¹² European Commission, *A European Strategy for Data* (Brussels, 2020). Accessible at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1593073685620&uri=CELEX%3A52020DC0066>.

paved the way for the Data Governance Act (DGA), the Digital Services Act (DSA) and the Digital Markets Act (DMA). With global online platforms the regulatory power of the European Union comes in especially handy, as it prevents the development of legal and regulatory patchwork situations across EU member states. The DGA, DSA, and DMA are regulations, and as such are binding in their entirety and directly applicable in all EU Member States, and need to be followed through by the Member States.¹³ Please see *Figure 2* (p. 9) for further information on European Union regulations and their implementation at the Austrian national level.

Austria

While Austria takes pride in having a highly advanced welfare state with mature governance instruments and vertical as well as horizontal divisions of power, the transformation of these achievements from the analog world into the digital realm has been in part rather slow. While many individual government services have been successfully digitized, a whole-of-government approach appears less pronounced, compared to other European countries like the Nordic or Baltic States. Several features may have impeded the development of a truly data-driven public sector: excessive concerns about data protection, administrative structures with a quite traditional ethos, many government structures and institutions still being shaped by analog times, and the pressure to change still not perceived as high enough. The Covid-19 pandemic highlighted many of these factors, and together with EU regulations, change is now imminent. However, some of the EU acts like the DGA are only slowly transferred into national law and institutional structures. The variety across policy fields is high: while labour market data, for example, are well developed and in high use for research and policy issues, the health sector is characterized by high segmentation of actors, mixed data quality, and excessive concerns about data protection. A recent field, pushed by *pandemic preparedness* needs, is resilience/logistics/supply chains, where ambitious projects are under way¹⁴. As Austria is characterized by a rather top-down and neo-corporatist policy and public administration culture, the record of data sharing (both public-private and public-public) might be less visible than in some other countries.

Vienna

Vienna is one of Austria's federal provinces, as well as the federal capital city and the country's largest municipality. As a federal province, Vienna has a right to its own legislation and provincial executive body. The City of Vienna is well aware of the sweeping socio-political and democratic dimensions of the digital transformation process. "Technology follows people, not the other way

¹³ "How EU policy is decided," European Union, last accessed on 1 November 2023. Accessible at: https://european-union.europa.eu/institutions-law-budget/law/how-eu-policy-decided_en.

A side note on European Union policymaking: The European Commission has the right to propose new legal initiatives. After an impact assessment and consultations by various actors such as national parliaments, the European Commission presents its proposal to the European Parliament and Council. If the Parliament and Council come to an agreement, the proposal can be adopted. There are five main types of EU legal acts: regulations, directives, decisions, recommendations, and opinions. Regulations are binding and directly applicable in all EU member states. Directives need to be adapted by the Member States in the form of national laws.

¹⁴ Such as the newly founded Austrian Supply Chain Intelligence Institute (ASCII). See: <https://ascii.ac.at/>.

around." In its Vienna Digital Principles,¹⁵ the City of Vienna has established several guiding principles as a basis, to do justice to this principle and to put people's needs first.

The City of Vienna is one of the open data pioneers in German-speaking countries. Since 2011 new open data are published in regular data phases (see chapter 4.3).

3. Selected European Regulations and Data-sharing Models

3.1 Public Sector Information and Open Data

The directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information is also known as the Public Sector Information (PSI) Directive. In Austria, the PSI Directive was implemented by the Federal Act on the Re-use of Information held by Public Sector Bodies (Information Re-use Act - IWG). The IWG entered into force at the federal level on 19 November 2005.¹⁶ Due to the legal situation regarding competences, the PSI Directive is implemented in Austria by one federal law and nine provincial laws. This means that the regulation of the legal framework for the re-use of documents of public bodies in the provincial and municipal sector falls under the legislation of the provinces.

Directive 2013/37/EU revised the PSI Directive. Directive (EU) 2019/1024 replaced this directive as of 17 July 2021. The new version of the Austrian Information Re-use Act IWG was passed on 6 July 2022, the nine federal acts in 2021 and 2022.

With this revision the government wants to facilitate the re-use of published documents held by public bodies and public enterprises as well as research data. This is intended to encourage the creation of new information products and services. The new law, as well as several related amendments, obliges the bodies concerned to make dynamic data available, in principle, immediately after collection by means of an application programming interface (API).

3.2 Digital Services Act

The Digital Services Act (DSA) was adopted by the European Parliament and Council and entered into force on 16 November 2022.¹⁷ By February 2024, the Member States of the European Union will have to ensure full implementation of its provisions. Like the GDPR, the DSA also obligates large, global online platforms operating in European Union countries to comply with the provisions. Some of the DSA's main aims are to force platforms to ensure algorithmic

¹⁵ City of Vienna, *Digital Agenda Vienna: Vienna to Become Capital of Digitilisation* (Vienna: 2019). Accessible at: https://digitales.wien.gv.at/wp-content/uploads/sites/47/2020/04/PO19-00224-DigitaleAgendaWien_Ue-en.pdf.

¹⁶ Federal Legal Information System (RIS), *Federal law consolidated: Entire legal provision for the Reuse of Information Act 2022*, (Austria: 2023). Accessible at: <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=Bundesnormen&Gesetzesnummer=20011973>.

¹⁷ Official Journal of the European Union, *Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and Amending Directive 2000/31/EC (digital Services Act)* (2022). Accessible at: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32022R2065>.

transparency, to strengthen users' rights, and to reduce disinformation. Under this framework, so far, the European Commission has defined 17 Very Large Online Platforms (VLOPs) and Very Large Online Search Engines (VLOSEs) that reach at least 45 million monthly active users.¹⁸ The DSA defines various systemic risks to the European Union in Article 34, section one, such as the violation of the European Charter on Fundamental Rights, the violation of the right to protection of minors and the violation of potential threats to societal debate, election processes, and public security. VLOPs and VLOSEs will have to publish Annual Risk Assessments for the European Commission based on the aforementioned systemic risks.

The governance structure of the DSA is as follows: the European Commission is the designated authority for supervision of VLOPs and VLOSEs and will work in close cooperation with the Digital Services Coordinators that need to be established in each Member State. Additionally, the European Commission has launched the European Centre for Algorithmic Transparency (ECAT),¹⁹ a research institution that will provide support in assessing algorithmic systems.

The DSA sets an example for private to public data sharing for research, that is articulated in Article 40 of the regulation. Researchers will have to be vetted by the digital services coordinators in their respective Member States and can then apply for access to platforms' data to perform research in the realm of the defined systemic risks. The technical and organizational details of ensuring data access for research will be outlined in a "delegated regulation" that is planned to enter into force in February 2024.²⁰ By then, Austria must designate a "Digital Services Coordinator," who will be responsible for managing the implementation of the DSA in Austria, including managing data requests for research under Article 40 of the DSA. A national law for the Digital Services Coordinator will have to be adopted by then.

3.3 Data Governance Act

The Data Governance Act (DGA) was adopted by the European Parliament and Council and entered into force on 30 May 2022.²¹ It lays the foundations for public data re-use and therefore data sharing between public and private actors across sectors and countries, including the European Data Spaces (see 2.4). This includes the granting of access to or re-use of certain categories of data, like commercially- or statistically-confident data or protected personal data (Article 3). The DGA further sets rules for the anonymization or other proper forms for the disclosure of public data, and a framework for the obligations of public sector bodies in EU Member States to comply with the DGA requirements. It sets the rules for and allows the creation

¹⁸ European Commission, "Digital Services Act: Commission designates first set of Very Large Online Platforms and Search Engines," 25 April 2023, https://ec.europa.eu/commission/presscorner/detail/en/IP_23_2413.

¹⁹ "European Centre for Algorithmic Transparency," European Commission, last accessed on 1 November 2023, https://algorithmic-transparency.ec.europa.eu/index_en.

²⁰ "Delegated Regulation on data access provided for in the Digital Services Act," European Commission, last accessed on 1 November 2023, https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13817-Delegated-Regulation-on-data-access-provided-for-in-the-Digital-Services-Act_en.

²¹ Official Journal of the European Union, *Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724 (Data Governance Act) (2022)*. Accessible at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32022R0868>.

of data intermediaries as sharing services independent from data holders and users to assist transactions of data assets.

To create such a regulated market (see e.g., Article 11 with various limitations for each party) between (mainly public) data providers, data users, and intermediaries, the State must order its own data treasures, to make them findable, inter-operable to a certain degree, and to guarantee quality levels. Therefore, each EU Member State must define conditions for data re-use, guarantee that the protected nature of data is preserved, and that intermediaries and other parties comply with the regulations (Article 5), plus many other duties. To order these data treasures, provide for information and transparency, and to guarantee data quality, the Member States have to set up or name various competent bodies (Article 7) which grant access for the re-use of the data and provide technical support, and a single information point (Article 8) to allow for easy and clear information on what data is available for what purpose. These institutional innovations should have a strong positive repercussion for the public sector: New public responsibilities, data stewards, expectations and claims from the private side should be among the factors to improve the government data and therefore interoperability, and therefore the capabilities of the State to come forward with better, evidence-based policy measures.

By the end of September 2023, Austria should have translated the DGA into national law, but it is still in preparatory stages.

3.4 European Data Spaces

The European Strategy for Data, as mentioned in chapter 1.3, aims at creating a single market for data that will ensure Europe's global competitiveness and data sovereignty. Common European data spaces are envisaged to ensure that more data becomes available for use in the economy and society, while keeping companies and individuals who generate the data in control. The infrastructure of data spaces based on common agreements, rules and standards forces the generation of services from data from external partners and also makes data available for trusted usage in cooperation, to enable a sovereign, trustworthy, and legally compliant use of data. Data sharing has to take place within shared common data spaces, for which appropriate legal and technical framework conditions are created. These specifically adapted framework conditions are intended to stimulate innovation and to ensure the interoperability of a wide range of technical systems. The framework conditions are not limited to a single region or state. The aim is therefore to link existing data pools on the basis of common objectives.

The establishment of the very diverse data spaces takes place either on a sectoral basis (health, agriculture, mobility, tourism, energy, etc.) or on a regional basis of specific use scenarios (use cases). See *figure 1* for more information. Within the framework of the Gaia-X²² initiative, for example, concrete use cases for the economy are being implemented in line with this European

²² "Gaia-X Framework," Gaia-X, last accessed 1 November 2023, <https://gaia-x.eu/what-is-gaia-x/about-gaia-x/>.

vision. The European Open Science Cloud (EOSC)²³ promotes open exchange among researchers based on the principles of open science and open access in the field of research. For now, nine data spaces are planned. The dataspace on Health is the first to be put into place and a proposal for a regulation for establishment of the “European Health Data Space” (EHDS) has already been made.²⁴

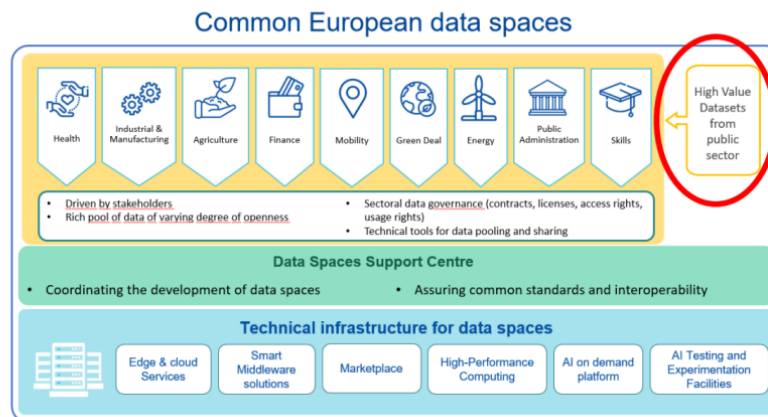


Figure 1 Common European data spaces

The following figure (figure 2) provides an overview of the European Union’s efforts to regulate digital markets, including, amongst others, data-sharing mechanisms. On the left side and in red letters throughout the chart, Austria’s goals and existing legal provisions for the promotion of data access to research are noted.

²³ See European Open Science Cloud: <https://eosc-portal.eu/>.

²⁴ “Proposal for a regulation - The European Health Data Space,” European Commission, 3 May 2022, https://health.ec.europa.eu/publications/proposal-regulation-european-health-data-space_en.

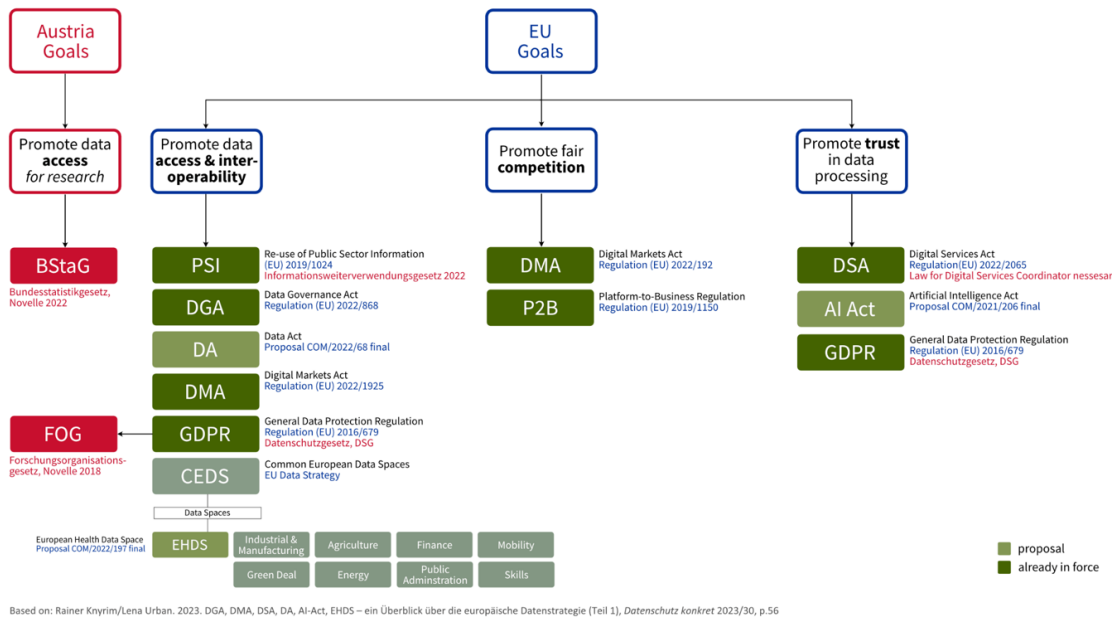


Figure 2 Overview of the European data strategy by Michael Strassnig, WWTF.

4. Data Governance in Austria

4.1 Open Data Developments on National Level

Open Data Maturity

In 2015 and 2016 Austria was an Open Data Trendsetter, together with Spain, France, United Kingdom and Finland, and has been among the EU leaders in terms of open data readiness according to the study "Open Data Maturity in Europe,"²⁵ conducted by the consulting firm Cap Gemini on behalf of the European Commission. Each year, the report assesses four dimensions: Policy, Impact, Quality, and Portal. As a result, the countries are divided into four clusters (Beginners, Followers, Fast Trackers, and Trend Setters).

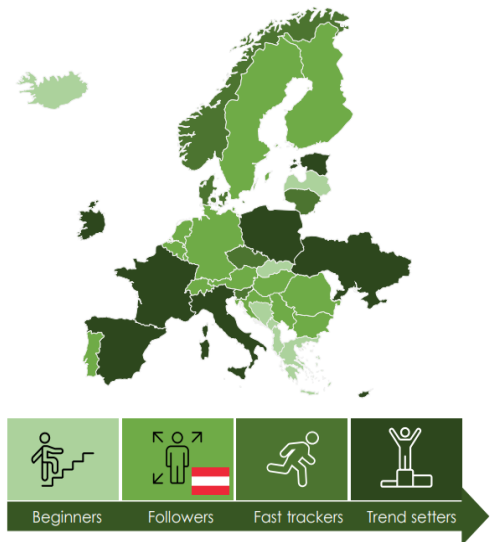


Figure 3 Open Data Maturity in Europe 2022

²⁵ Gianfranco Cecconi and Cosmina Radu, *Open Data Maturity in Europe: Report 2018* (European Data Portal, 2018). Accessible at: https://data.europa.eu/sites/default/files/edp_landscaping_insight_report_n4_2018.pdf.

In 2021, Austria fell back to the group of “Fast Trackers” and IN 2022²⁶ fell further behind to the group of “Followers,” lacking in the dimensions of impact and quality, mainly because the implementation at the national level and the engagement in government ministries is poor.

Austrian National Metadata Portals

The Austrian national governmental metadata portal²⁷ is based on cooperation between the federal government, cities, federal states, and municipalities. More than 700 showcases of apps, visualizations, and other solutions that use open data are published and prove the added value of open data for economy, science, and research.

Based on European regulations, it is mainly the public administration that is forced to open up their data, but civil society, science (OpenScience), business, arts & culture (OpenGLAM), and NPOs/NGOs can also contribute open data for transparency, a data ecosystem, and an open knowledge and information society. Austria supports a data portal for non-governmental open data.²⁸ This “sister portal” to the governmental portal has been initiated in a sub-working group of Cooperation Open Government Data (OGD) Austria. Both portals are harvested by the European data portal.²⁹

Cooperation Open Government Data (OGD) Austria

“Cooperation OGD Austria³⁰” was founded by the Federal Chancellery and the cities of Vienna, Linz, Salzburg, and Graz on 13 July 2011. Federal Government and states, cities and towns in cooperation with the communities, science, culture and the economy then set the basic agreements for the future of Open Government Data in Austria. The OGD is envisaged to represent the interests of ministries, federal states, cities, and communities and to unite all actors who operate, plan, or create the open government data platform. Amongst others, the cooperation publishes reference documents for metadata and strategies for the further development of open data in Austria. Consequently, OGD D-A-CH-LI,³¹ the cooperation with Germany, Switzerland and Liechtenstein was founded in 2012 to enhance international cooperation.

²⁶ “Open Data in Europe 2022,” European Commission, last accessed 1 November 2023, <https://data.europa.eu/en/publications/open-data-maturity/2022>.

²⁷ See data.gv.at: <https://www.data.gv.at/>.

²⁸ See Open Data Portal Österreich: <https://www.opendataportal.at/>.

²⁹ “data.europa.eu - The official portal for European data,” European Commission, last accessed 1 November 2023, <https://data.europa.eu/en>.

³⁰ “Cooperation OGD Austria,” data.gv.at, last accessed 1 November 2023, <https://www.data.gv.at/infos/cooperation-ogd-oesterreich/>.

³¹ “Cooperation OGD D-A-CH-LI,” data.gv.at, last accessed 1 November 2023, <https://www.data.gv.at/en/info/cooperation-ogd-d-a-ch-li/>.

In 2021, the Cooperation OGD Austria presented solution strategies for the following issues, to ensure a prosperous future for Open Data in Austria³²:

- Data quality standards and feedback loops
- Identifiers for data
- Data Spaces and how to make best use of them
- Future of Cooperation OGD Austria.

The continuity of the Cooperation OGD Austria is currently only ensured due to the initiative of the long-standing spokesperson from the City of Vienna. A permanent team to drive the agendas would be necessary. A stronger commitment and anchoring of Cooperation OGD Austria with a governance structure and fixed memberships and a network for the Open Data officers according to the IWG should be established.

4.2 Data Initiatives at the National Level

In 2022 the “Data excellence initiative,” consisting of approximately 40 university researchers, public agency, and ministry representatives, organized by the Austrian Research and Technology Development Council, published a position paper on strategies for Austria to achieve data excellence.³³ Amongst others, the initiative advocated for the coherent and timely implementation of the DGA in Austria and presented their vision for a National Data Strategy. While Austria still has no National Data Strategy as of today, Austria in the meantime has defined the Federal Ministry for Finance as the implementing body for the DGA. With the establishment of the Austrian Microdata Center³⁴ at the Statistik Austria, Austria’s National Statistical Institute, in 2022, a long-standing demand of the Austrian scientific community for data access to national microdata sets has been fulfilled. Since 2022, researchers from accredited research institutes can apply for access to the data sets.

5. Vienna Principles of Data Excellence

Looking from the national level to the federal level, this chapter gives a short overview of the activities of the City of Vienna in the field of data governance, starting with a short introduction to Digital Humanism as the guiding principle to digitalization in the City.

³² Cooperation OGD Österreich, Wie erhöhen wir den Nutzen offener Daten in den nächsten 10 Jahren? (2023). Accessible at: https://www.data.gv.at/wp-content/uploads/2023/07/Wie-erhoehen-wir-den-Nutzen-offener-Daten-in-den-naechsten-10-Jahren_20230619.pdf

³³ Stefanie Schürz, Stefanie Konzett-Smoliner and Michael Stampfer, *Datenexzellenz: Strategien für Österreich*. Accessible at: <https://fti-monitor.rfte.at/docs/pdf/M300021.pdf>.

³⁴ “Austrian Micro Data Center (AMDC),” Statistics Austria: The Information Manager, last accessed 1 November 2023, <https://www.statistik.at/services/tools/services/center-wissenschaft/austrian-micro-data-center-amdc>.

5.1 Digital Humanism Principles

The Vienna Manifesto on Digital Humanism,³⁵ written at the Vienna University of Technology in 2019, begins with a quote from Tim Berners-Lee's "The system is failing." This conclusion by one of the developers of the world wide web as we know it, and other alarm calls,³⁶ have led to the start of the Digital Humanism initiative,³⁷ with a Vienna Manifesto on Digital Humanism.³⁸ Four years later, the administration of the City of Vienna has incorporated "Digital Humanism" into their daily work and Vienna is buzzing with an entire ecosystem of players in the field from diverse backgrounds in science and research, business, as well as non-governmental organizations. The basic ideas of Digital Humanism, such as the promotion and safekeeping of human dignity, freedom, and self-determination in the digital world, the promotion of human autonomy and 'human authorship' through digital technologies, and the fundamental understanding that technology is not a destiny, but can be shaped by its developers, humans, have become key elements of the City of Vienna's strategies, such as the Smart Climate City Strategy or the Digital Agenda.

Vienna aims to position itself not only as an internationally-recognized Smart City but also a centre of Digital Humanism. At the City of Vienna, Digital Humanism is translated into an actionable approach, correlating with the Smart City Strategy: technology should be used to make society and humans living within it more content, and create economic value while at the same time conserving resources. Digital Humanism has also permeated the City of Vienna's approach towards data governance, with the underlying principles of self-determination, and (digital) sovereign design as opposed to the prevailing system of monetization of data at any cost. The path of open cooperation without dependencies strengthens local players and prevents the outflow of value from our city. It is based on the principles of open data, open source, and open standards. These principles create trust in data, in technology, in the origin of technology, and promote mutual trust between all actors involved.

The pursuit of the goal of digital and data sovereignty culminates in the city's participation in the Gaia-X project,³⁹ which aims to create a high-performance and competitive data infrastructure for Europe. Gaia-X is not a commercial cloud infrastructure, but an open standard for a cloud infrastructure that implements European data protection requirements, transparency, equality, and compatibility - the very values of a European self-determined digitalization.

³⁵ *Vienna Manifesto on Digital Humanism* (Vienna: 2019). Accessible at: <https://dighum.ec.tuwien.ac.at/wp-content/uploads/2019/05/manifesto.pdf>.

³⁶ S. Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (London: Profile Books, 2018).

³⁷ See open access publication "Perspectives on Digital Humanism" for further information on the concept of Digital Humanism: <https://link.springer.com/book/10.1007/978-3-030-86144-5>.

³⁸ For further information, see: M. Stampfer, *Digital Humanism: In Support of Global Public Goods*.

³⁹ "About Gaia-X," Gaia-X, last accessed 1 November 2023, <https://gaia-x.eu/what-is-gaia-x/about-gaia-x/>.

5.2 Data Excellence Strategy of the City of Vienna

Vienna includes all measures to sustainably maximize the value of data under the umbrella of “Data Excellence.” This means that Data Governance,⁴⁰ Data Quality Management, and all disciplines of data management are elements of the Data Excellence Strategy of the City of Vienna.⁴¹

The guiding Principles of the Data Excellence Strategy are:

- FAIR Data (**F**indability; **A**ccessibility; **I**nteroperability; **R**eusability)
- Data protection
- Data sovereignty: the strategy encourages data providers to collect, store, process and use the data in their own area of responsibility through suitable systems. In addition to the protection of personal data, data sovereignty is about active and reflected control of the entire data life cycle of all data. This requires awareness, empowerment, transparency, and a high level of data literacy.
- Visibility of data usage: Only data that is used brings benefits. Therefore, all data usage (dashboards, reports, data interfaces) must be accessible via portals. The documentation on this must be kept in the data usage catalog.
- “Open by Design” for access to public data of the City of Vienna: The city administration provides data, documents, and services that are publicly classified as machine-readable, free, and free of charge (“Open by Default”). This should stimulate the development of new applications based on novel ways to combine and use data and promote economic growth and social engagement. The goals are the establishment of an open data culture and the expansion of digital participation and possible use. “Open by Design” means that the requirements for the publication of open data are considered during the development phase of a project or product in order to achieve a well-planned, systematic, automated, and securely designed results.

⁴⁰ In general, Data Governance forms the basis for a company-wide coordinated data management through rules, organization and processes – but above all by the people involved – on both the business and technical levels. Data Quality Management refers to all quality-oriented organizational, methodological, conceptual, and technical measures to control and manage data in the sense of an asset.

⁴¹ City of Vienna, *Data Excellence Strategy of the City of Vienna* (Vienna: 2019). Accessible at: https://digitales.wien.gv.at/wp-content/uploads/sites/47/2023/07/Data-Excellence-2.0_EN.pdf.

5.3 Open Data in Vienna

The City of Vienna is an open data pioneer in German-speaking countries. Since 2011 new open data sets are published in regular data phases – until September 2023 more than 600 datasets have been published on the City of Vienna’s open data portal⁴².

The city's administration provides access to classified data, documents, and services in machine-readable form, free and at no charge. This proactive open data publication allows for availability and reuse of the City of Vienna's data for private or commercial purposes within certain legal, technical or financial conditions. By doing so, the City of Vienna aims at establishing an open data culture as well as at expanding digital participation and application opportunities, because data is the foundation for development and application of new technologies. Vienna uses the national metadata portal based on cooperation between the federal government, cities, states and municipalities.

As mentioned in chapter 3.1, Vienna is one of the founding members of Cooperation OGD Austria and is actively engaged in the Cooperation OGD Austria and the Cooperation OGD D-A-CH-LI. The spokesperson is the data governance coordinator of the City of Vienna who has been unanimously elected as spokesperson for the last 10 years.

6. Public-Private Data-Sharing Partnerships in Vienna

6.1 Kindergarten Meets Open Data

Example 1: Citizen engagement with public authorities of the City of Vienna

Based on Open Data of the City of Vienna (locations of kindergartens in Vienna) and in cooperation with the municipal department for Child and Youth Welfare Service a group of active parents have created the platform [kigafinder.at](https://www.kigafinder.at) - Die Kindergartensuche für Wien⁴³.

On [kigafinder.at](https://www.kigafinder.at) all public and private kindergartens in Vienna can be found. With a radius search for Vienna addresses, comprehensive contact details and additional information, clear map display and personal watch lists, the platform helps to find the best daycare for children.

6.2 Urban Data Space Smart City Vienna

Example 2: City administration with city infrastructure service provider

This Data Space is intended to promote the sharing of data between the Municipality of the City of Vienna and the Wiener Stadtwerke Group and is strategically supported by the CIOs of the

⁴² “Data appearance - City of Vienna,” data.gv.at, last accessed 1 November 2023, <https://www.data.gv.at/auftritte/?organisation=stadt-wien>.

⁴³ “kigafinder.at – The kindergarten search for Vienna,” data.gv.at, last accessed 1 November 2023, <https://www.data.gv.at/application/kigafinder-at-die-kindergartensuche-fuer-wien/>.

Municipality and Wiener Stadtwerke to enhance knowledge in both organizations. The Wiener Stadtwerke Group is a holding of the City of Vienna and Vienna's infrastructure service provider. Framework agreements to regulate the conditions for data usage are in place, to ensure data sharing under clear organizational, legal, and technical conditions. The technical implementation is to be carried out according to Gaia-X principles and principles of federated data spaces.

Examples for datasets shared are restricted classified data for planning purposes, such as the following:

- Planned tree plantings of the municipal department for parks and gardens for the next planting period, in order to coordinate these with construction activities;
- Geodata of planned construction sites which due to the large-scale presentations could lead to misleading interpretations and therefore cannot be offered as open data;
- Multi-purpose city map and terrain models out of ongoing processing;
- Data of road information system on pavement types, kerbs, and road conditions used for joint maintenance management;
- Data from the thermal flight of the heating network in order to be able to identify weaknesses and thermal weak points;
- Inventory plans of assets;

There are possible expansion scenarios of the Urban Data Space Smart City Vienna such as:

- Stage 1: Further companies of the City of Vienna (Wien Holding, ...)
- Stage 2: Economy, science, citizens, and other regional authorities.

6.3 Data Sharing for Mutual Benefit

Example 3: Vienna Tourist Board (Corporation under public law) with the Vienna Airport (Stock Corporation)

For the Vienna Tourist Board, it has always been of utmost importance to facilitate data- and evidence-based decision-making. For the organization, but also for its stakeholders, the Vienna Visitor Economy. One of the tourist board's tasks within its legal mandate is the provision of statistics and market research results for Viennese tourism organizations.

For this it is necessary to focus on more than the conventional statistical data: more granular and more readily available data. This has become particularly crucial during the volatile conditions caused by the Covid-19 pandemic. Building upon a long-lasting cooperation between the Vienna Tourist Board and the Vienna Airport based on trust and mutual respect, data sharing and aligned agenda planning have been cultivated for many years. The outbreak of the pandemic was in many cases the starting point for (increased) data use and motivated formal agreements between the

Vienna Tourist Board and individual companies from the private sector, among others, the Vienna Airport. Since then, the Vienna Tourist Board has been sourcing data on flight connectivity and making these insights easily available for the local stakeholders via a publicly-available dashboard and/or ongoing communication formats. It is one data source and thus a puzzle stone aimed at providing a holistic picture on the touristic development of the destination from which also the data providers can benefit. Stakeholders can use data on scheduled flights to adapt their marketing campaigns and products, which fuels demand for the airlines and in consequence the airport as well. Building networks based on data sharing, is the core idea of the Sustainable Tourism Observatories (INSTO) approach, which shall allow for cooperative destination management and planning, considering and balancing the agendas and different needs of all stakeholders involved.

6.4 Cooperation by Coercion

Example 4: City of Vienna and the evolving platform economy

As part of the informal ‘alliance on short term rentals’ formed by 19 European cities, including Vienna, the City of Vienna started fiscal regulation of short-term rentals via Airbnb through the “Wiener Tourismusförderungsgesetz (WTFG),” the tourism promotion law, already in 2016. Starting from 2017, touristic platforms had to ensure compliance with data-reporting obligations on overnight stays. As some platforms did not comply with those rules, the City of Vienna took the decision to start administrative proceedings. With regards to tax data, the European Union after 2020 created the DAC-7 regulation⁴⁴ which allows tax authorities to get data from platforms. Since this regulation grants access to data only to tax authorities, European cities kept calling for a legal basis on the EU level which would establish data-sharing obligations also with regard to other authorities.

The main problem for public authorities in the emerging digital short-term rental market was that they had no access to platform data. Without this stock of data (data on the host, data on the location of a unit) there is no basis for efficient administrative enforcement. On the European level back then digital markets were still regulated merely by the E-Commerce directive from 2001. A stronger regulation of the smartphone-driven digital platform economy on a European level only started with regulation proposals such as the Digital Markets Act and the Digital Services Act in 2020.

In 2018, Vienna built on its existing “Wohnzonen” (residential zones) regulation in its Building Code with the goal to restrict short-term rentals in those zones to support the purpose of housing. The Building Code will be amended in 2023 and will enable short-term letting for an annual duration no longer than 90 days and introduce mandatory approval procedures for short-term letting longer than 90 days.

⁴⁴ Official Journal of the European Union, *Council Directive (EU) 2021/514 of 22 March 2021 amending Directive 2011/16/EU on administrative cooperation in the field of taxation* (2021). Accessible at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021L0514>.

As the first “plug-in” law to the Digital Services Act and to prevent legal fragmentation across the European Union, the European Commission has started working on a proposal for a regulation to harmonize data exchange in the field of short-term rentals.⁴⁵ This regulation will, though only in areas where a registration system for hosts in Member States exists, bring the obligation towards platforms to share data on bookings via a so-called Single Digital Entry Point on a monthly basis with the designated national, regional, or local authorities. This Act will become EU law in all Member States by 2024 and should be applicable by 2025 or 2026.

This is an example not for voluntary cooperation, but rather for ‘cooperation by coercion,’ as well as a good example for the fact that, based on existing legislation such as the Viennese building code, platforms can be forced to report a defined set of data with State administrative authorities and play by the rules of the local and national economies they operate in.⁴⁶

⁴⁵ European Commission, *Regulation of the European Parliament and of the Council on data collection and sharing relating to short-term accommodation rental services and amending Regulation (EU) 2018/1724* (Brussels: 2022). Accessible at: https://single-market-economy.ec.europa.eu/system/files/2022-11/COM_2022_571_1_EN_ACT_part1_v7.pdf.

⁴⁶ Wolfgang Hassler and Eva Seibold, “Short-term rentals in the EU: When platforms need to share data,” A&W blog, 28 September 2023, <https://awblog.at/kurzzeitvermietung-ueber-plattformen-in-der-eu/>.

Glossary

AMDC	Austrian Microdata Center
API	Application Programming Interface
BMWi	German Federal Ministry for Economic Affairs and Energy
DAC	Directive on Administrative Cooperation
DGA	Digital Governance Act
DMA	Digital Markets Act
DSA	Digital Services Act
ECAT	European Centre for Algorithmic Transparency
EHDS	European Health Data Space
EOSC	European Open Science Cloud
FAIR	F indability; A ccessibility; I nteroperability; R eusability
GDPR	General Data Protection Regulation
HLAB	United Nations High-Level Advisory Board
INSTO	Sustainable Tourism Observatories
IWG	Informationsweiterverwendungsgesetz
OGD	Open Government Data
PSI Directive	Public Sector Information Directive
VLOPs	Very Large Online Platforms
VLOSEs	Very Large Online Search Engines
WTFG	Wiener Tourismusförderungsgesetz

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This Working Paper is an output of the UNU-CPR initiative, “A Breakthrough for People and Planet: Building Momentum for the Summit of the Future and Beyond”.

