

Article 22 GDPR on Automated Individual Decision-Making: Prohibition or Data Subject Right?

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Article 22 of the GDPR can either be understood as a prohibition or as a data subject right. How one decides has far-reaching consequences both for the persons concerned and for the companies or public authorities that use such decision-making systems. Scholars have presented different arguments in favour of one or the other interpretation. However, with a few notable exceptions, comprehensive analyses of all relevant arguments are still missing. This paper contributes to fill this gap and attempts to complete the picture by adding two novel and important aspects: First, a systematic perspective that connects Article 22 GDPR to the future European Artificial Intelligence Act and second, a thorough teleological interpretation of Article 22 GDPR. Both these aspects tip the balance in favour of a data subject right.

I. Introduction

Automated decision-making is not a new phenomenon,¹ nor is its regulation through EU data protection law.² However, technological progress, especially in the field of artificial intelligence (AI), leads to decisions being made automatically in more and more areas of daily life. Already today it is commonplace that

decisions are taken by ‘machines’ and not by human beings. Some of the most prominent examples are decisions on credit applications, whether someone is invited to a job interview, the termination of their employment relationships or what price a customer must pay for a product or service in an online shop.³

While European lawmakers are currently working on a regulation laying down harmonised rules

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1 Depending on the definition of the term, automated decision-making systems have already been used for decades. For example, European cities had implemented traffic signal systems in the 1950s which only little later led to a debate on the legal nature of such systems’ decisions. cf Florent Thouvenin, Alfred Früh and Damian George, ‘Datenschutz und automatisierte Entscheidungen’ (2018) Jusletter of 26 November 2018 para 4 <https://jusletter.weblaw.ch/dam/publicationsystem/articles/jusletter/2018/959/datenschutz-und-auto_f4640482f2/jusletter_datenschutz-und-auto_f4640482f2_de.pdf> last accessed 16 February 2022.

2 Art 15 (1) Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data [1995] OJ L281/31 (DPD) already obliged EU Member States to grant ‘the right to every person not to be subject to a decision which produces legal effects concerning him or her or significantly affects him or her and which is based solely on automated processing of data intended to evaluate

certain personal aspects relating to him or her, such as his or her performance at work, creditworthiness, reliability, conduct, etc.’ The regulation of automated decisions was included in the DPD at France’s insistence and followed the model of earlier French data protection law. cf Ulrich Wuermeling, ‘Umsetzung der Europäischen Datenschutzrichtlinie’ (1996) 13 DB 663, 668; Thouvenin, Früh and George (n 1) paras 19–20; Luca Tosoni, ‘The Right to Object to Automated Individual Decisions: Resolving the Ambiguity of Article 22(1) of the General Data Protection Regulation’ (2021) 11 IDPL 145, 149.

3 cf for these examples Frederik Zuiderveen Borgesius and Joost Poort, ‘Online Price Discrimination and EU Data Privacy Law’ (2017) 40 Journal of Consumer Policy 347, 362; Romy Daedelow, ‘Wenn Algorithmen (unfair) über Menschen entscheiden ...’ (2 prohibition / 018) Jusletter of 26 November 2018 paras 8 et seq <[https://jusletter.weblaw.ch/dam/publicationsystem/articles/jusletter/2018/959/wenn-algorithmen-\(un_b986e22c84/jusletter_wenn-algorithmen-\(un_b986e22c84_de.pdf](https://jusletter.weblaw.ch/dam/publicationsystem/articles/jusletter/2018/959/wenn-algorithmen-(un_b986e22c84/jusletter_wenn-algorithmen-(un_b986e22c84_de.pdf)> last accessed 16 February 2022; Tietosuoja valtuutetun Toimisto, ‘The Data Protection Ombudsman ordered Svea Ekonomi to correct its practices in the processing of personal data’ (23 April 2019) <https://tietosuoja.fi/-/tietosuoja valtuutettu-maaras-svea-ekonomi-korjaamaan-kaytantojaan-henkilotietojen-kasittelyssa?language=en_US> last accessed 16 February 2022; Kai von Lewinski, ‘DS-GVO Art. 22’ in Stefan Brink and Heinrich A. Wolff (eds), *Beck’scher Online-Kommentar Datenschutzrecht* (CH Beck state as of 1 May 2021) para 31.

on AI (Artificial Intelligence Act),⁴ the EU General Data Protection Regulation (GDPR)⁵ already contains a provision addressing automated decision-making which aims to solve the (alleged) problems⁶ related to it. According to Article 22 (1) GDPR 'the data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her'. The provision only targets decisions taken without human intervention. So-called decision support systems fall outside of its scope. Legal scholarship has addressed this and other aspects regarding the scope of application of this provision,⁷ yet one key question remains unanswered: Does Article 22 GDPR prohibit automated decision-making in general or does it only stipulate a right not to be subject to such a decision that the data subject may exercise?

This is not a purely academic question. Its answer has a considerable practical impact on data subjects as well as on all the companies and public authorities which deploy or plan on deploying automated decision-making systems.⁸ If the GDPR prohibits automated decision-making, controllers are only allowed to use such systems if the conditions laid down in one of the three exceptions in Article 22 (2) GDPR are fulfilled. Data subjects are, therefore, protected against automated decisions by default. As a consequence, anyone deploying automated decision-making systems outside the scope of application of the

three exceptions is subject to legal consequences such as administrative fines, irrespective of whether the automated decision had any negative impact on the data subject. If Article 22 (1) GDPR is understood as a prohibition, this provision also expresses fundamental reservations about automated decision-making. If Article 22 (1) GDPR, on the other hand, stipulates a data subject right, companies and public authorities are free to deploy automated decision-making systems. However, when doing so, they must set up their processes in a way that allows them to take the respective decisions without such systems whenever a data subject requires them to do so and none of the three exceptions apply. With this reading of the provision, only withholding the data subject right in the individual case triggers legal consequences and automated decision-making is generally viewed more positively.

Scholars have presented different arguments in favour of one or the other interpretation of Article 22 (1) GDPR, but with the exception of one recently published paper⁹ there is no comprehensive analysis of the relevant legal arguments. In this contribution, we try to fill this gap by offering a more complete overview of the pertinent arguments, thereby focusing on two novel and important aspects. For this purpose, we first take a look at the methods for the interpretation of EU law (below II.) and present the current state of research on the legal nature of Article 22 (1) GDPR (below III.). Applying the established methods for the interpretation of EU law, we subse-

4 Commission, 'Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts' COM (2021) 206 final.

5 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC [2016] OJ L119/1 (GDPR).

6 cf. *inter alia*, Lee A. Bygrave, 'Minding the Machine: Article 15 of the EC Data Protection Directive and Automated Profiling' (2001) 17 Computer Law & Security Report 17, 18-19; Tal Z. Zarsky, 'Incompatible: The GDPR in the Age of Big Data' (2017) 47 Seton Hall Law Review 995, 1016-1017; Stefanie Hähnold, 'Profiling and Automated Decision-Making: Legal Implications and Shortcomings' in Marcelo Corrales, Mark Fenwick and Nikolaus Forgó (eds), *Robotics, AI and Future of Law, Perspectives in Law, Business and Innovation* (Springer 2018) 123, 129 et sqq.

7 The condition that decisions must be based solely on automated processing significantly limits the scope of application of Article 22 GDPR; Mario Martini, *Blackbox Algorithmus – Grundfragen einer Regulierung Künstlicher Intelligenz* (Springer 2019) 172 et

sqq; Michael Veale and Lilian Edwards, 'Clarity, surprises, and further questions in the Article 29 Working Party draft guidance on automated decision-making and profiling' (2018) 34 CLSR 398, 400. Moreover, it is disputed whether a decision needs to be based on automated processing of personal data that is intended to evaluate certain personal aspects relating to the data subject to fall under art 22 GDPR. cf. Isak Mendoza and Lee A. Bygrave, 'The Right Not to be Subject to Automated Decisions Based on Profiling' in Tatiani Synodinou and others (eds), *EU Internet Law, Regulation and Enforcement* (Springer 2017); Simon Henseler, 'Was ist eine automatisierte Entscheidung?, Zum Tatbestand von Art. 22 Abs. 1 DSGVO' in Julia Meier, Nadine Zurkinder and Lukas Staffler (eds), *Recht und Innovation, Innovation durch Recht, im Recht und als Herausforderung für das Recht* (Dike 2020) 301, 309 et sqq.

8 Tosoni (n 2) 146; Sandra Wachter, Brent Mittelstadt and Luciano Floridi, 'Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation' (2017) 7 IDPL 76, 95. See also Frederike Kaltheuner and Elettra Bietti, 'Data is power: Towards additional guidance on profiling and automated decision-making in the GDPR' (2018) 2 Journal of Information Rights, Policy & Practice 1, 10.

9 cf. Tosoni (n 2) *passim*.

quently examine the arguments in favour of interpreting this provision as a prohibition as well as the arguments in favour of a data subject right (below IV.). Based on this analysis, we will finally show why Article 22 (1) GDPR should be interpreted as a data subject right (below V.).

II. Methods for Interpretation of EU Law

The relevant methods for the interpretation of (secondary) EU law align with the ones established for the interpretation of national law.¹⁰ On repeated occasions, the Court of Justice of the European Union (CJEU) held that ‘It is settled case-law that the meaning and scope of terms for which European Union law provides no definition must be determined by considering their usual meaning in everyday language, while also taking into account the context in which they occur and the purposes of the rules of which they are part.’¹¹

The starting point for the interpretation, therefore, is the wording of the provision and the determination of its normative content by reference to the usual meaning of the words used therein.¹² All 24 language versions of EU law are equally authentic (grammatical method, also literal method).¹³ Furthermore, the interpretation needs to consider the principle of coherence of the EU legal order and must not look at the one pro-

vision to be interpreted in isolation.¹⁴ An EU law provision must be given a meaning which guarantees that there is no inconsistency or conflict between the provision subject to interpretation and other provisions of the same act or of other EU legal instruments (systematic method).¹⁵ Accordingly, the CJEU interprets ‘every provision of community law [...] in the light of the provisions of community law as a whole’.¹⁶ Most importantly, the interpretation has to align with the spirit and the purpose of the provision and the respective act and should take the consequences of the interpretative result into account (teleological method, also purposive method).¹⁷ Often, the Recitals¹⁸ hint to the motivation and reasons the EU lawmakers had in mind when enacting a legal instrument which is an aspect the CJEU (also) takes into consideration in its purpose-oriented method.¹⁹ In addition, the CJEU frequently puts emphasis on the so called ‘*effet utile*’ by interpreting provisions in a way that ensures the practical effectiveness of the provision and EU law in general.²⁰ Less relevant but still employed in some occasions is the interpretation method that relies on the genesis and the preparatory work of the provision that is subject to interpretation (historical method).²¹

III. State of Research

Scholars across Europe have come to two different conclusions regarding the legal nature of Article 22

10 Matthias Oesch, *Europarecht, Grundlagen, Institutionen, Verhältnisse Schweiz-EU*, vol 1 (2nd edn, Stämpfli 2019) para 461. See also Hannes Rösler, ‘Interpretation of EU Law’, *The Max Planck Encyclopedia of European Private Law* (2012) 979; Koen Lenaerts and José A. Gutiérrez-Fons, ‘To Say What the Law of the EU Is: Methods of Interpretation and the European Court of Justice’ (2014) 20 *Columbia Journal of European Law* 3, 6.

11 eg Case C-336/03 *easyCar (UK) Ltd v Office of Fair Trading* [2005] ECR I-01947 (ECLI:EU:C:2005:150) para 21; Case C-12/11 *Denise McDonagh v Ryanair Ltd* [2013] (ECLI:EU:C:2013:43) para 28; Case C-476/17 *Pelham GmbH and others v Ralf Hütter and Florian Schneider-Esleben* [2019] (ECLI:EU:C:2019:624) para 28.

12 Oesch (n 10) para 466.

13 Lenaerts and Gutiérrez-Fons (n 10) 8. See also Case C-283/81 *Srl CILFIT and Lanificio di Gavardo SpA v Ministero della Sanità* [1982] ECR I-03415 (ECLI:EU:C:1982:335) para 18; joined Cases T-22/02 and T-23/02 *Sumitomo Chemical Co. Ltd and Sumika Fine Chemicals Co. Ltd v Commission* [2005] ECR II-04065 (ECLI:EU:T:2005:349) paras 46-47.

14 Case C-499/04 *Hans Werhof v Freeway Traffic Systems GmbH & Co. KG* [2006] ECR I-02397 (ECLI:EU:C:2006:168) para 32.

15 Lenaerts and Gutiérrez-Fons (n 10) 17. See also Oesch (n 10) paras 468-469.

16 Case C-77/83 *Srl CILFIT and others and Lanificio di Gavardo SpA v Ministero della Sanità* [1984] ECR-01257 (ECLI:EU:C:1984:91) para 20. See also Case C-396/12 *A.M. van der Ham and A. H. van der Ham-Reijersen van Buuren v College van Gedeputeerde Staten van Zuid-Holland* [2014] (ECLI:EU:C:2014:98) para 32.

17 Case C-26-62 *NV Algemene Transporten Expeditie Onderneming van Gend & Loos v Netherlands Inland Revenue Administration* [1963] ECR I-0001 (ECLI:EU:C:1963:1) para 12; Case C-101/01 *Criminal proceedings against Bodil Lindqvist* [2003] ECR I-12971 (ECLI:EU:C:2003:596) para 50. See also Lenaerts and Gutiérrez-Fons (n 10) 32, who distinguish within the teleological interpretation method the ‘teleological interpretation *stricto sensu*’ from the ‘consequentialist interpretation’; Rösler (n 10) 979.

18 Recitals are themselves not legally binding but help to explain the purpose and intent behind a normative instrument. cf Roberto Barrata, ‘Complexity of EU law in the Domestic Implementing Process’ (2014) 2 *The Theory and Practice of Legislation* 293, 302; Wachter, Mittelstadt and Floridi (n 80).

19 Rösler (n 10) 979.

20 Rösler (n 10) 979; Oesch (n 10) para 472. See also joined Cases C-6/90 and C-9/90 *Andrea Francovich and others v Italian Republic* [1991] ECR I-05357 (ECLI:EU:C:1991:428) para 33.

21 cf Rösler (n 10) 979; Lenaerts and Gutiérrez-Fons (n 10) 23 et seq.

GDPR: Some consider Article 22 (1) GDPR as a general prohibition (below 1.) whereas others understand this provision as a data subject right (below 2.). As opposed to the (albeit limited) discussion in legal doctrine, there seems to be no court decision offering an in-depth analysis of this question – at least not yet. To the best of our knowledge, an Austrian Court and two Dutch Courts have expressed themselves on the question so far. All of them, the Austrian Federal Administrative Court,²² the The Hague District Court²³ as well as the Amsterdam District Court,²⁴ held in their decisions that Article 22 (1) GDPR prohibits automated decision-making in general. Unfortunately, the Courts left open how they reached this conclusion. In any case, it will be the task of the Court of Justice of the European Union (CJEU) to ultimately answer the question.²⁵

1. General Prohibition

According to the majority opinion, Article 22 (1) GDPR contains a general prohibition of automated decision-making.²⁶ Scholars supporting this interpretation put various arguments forward that essentially either refer to the genesis of Article 22 GDPR, the systematic context of the provision (within Article 22, the GDPR as a whole and beyond) and/or the *ratio legis* of the GDPR.

With regard to the genesis of Article 22 (1) GDPR, some authors point to the fact that the European Parliament's draft of the GDPR stipulated in Article 20 (1) and Recital 58 a 'right to *object* profiling' (as opposed to the provision on automated decision-making of the Commission's proposal) thereby emphasising that data subjects would have to actively exer-

22 BVwG Austria, W 256 2235360-1 (ECLI:AT:BVWG:2020:W256.2235360.1.00). The judgment concerns the legality of an automated system for assessing the job prospects of persons seeking employment. Although the Court found that the system was just a decisional support tool and, hence, the decisions were not fully automated in the sense of art 22 (1) GDPR, it stated in an obiter dictum that said provision prohibits automated decision-making in general.

23 *Netherlands Legal Committee for Human Rights and others v The Netherlands* [2020] C/09/550982/HA ZA 18-388 ECLI:NL:RBD-HA:2020:865 (The Hague District Court, NL) para 6.35. The Court had to judge whether SyRI, a legal instrument used by the Dutch government to detect various forms of fraud, including social benefits, allowances and taxes fraud, was in compliance with higher law such as the European Convention on Human Rights (ECHR); in passing it stated that art 22 (1) GDPR contained a general prohibition of automated decision-making.

24 *Applicants 1-3 v Ola Netherlands BV* [2021] C/13/689705/HA RK 20-258 ECLI:NL:RBAMS:2021:1019 (Amsterdam District Court, NL) para 4.51. In this case concerning Ola, a company providing an app that links (taxi) drivers to passengers like Uber, the Court had to assess, *inter alia*, if Ola's automated decision-making process that determines whether rides are not valid and, as a result, discounts or fines are imposed falls within the scope of art 22 GDPR; this was confirmed by the Court. See also Raphaël Gellert, Marvin van Bekkum and Frederik Zuiderveen Borgesius, 'The Ola & Uber judgments: for the first time a court recognises a GDPR right to an explanation for algorithmic decision-making' (*EU Law Analysis*, 28 April 2021) <<http://eulawanalysis.blogspot.com/2021/04/the-ola-uber-judgments-for-first-time.html>> last accessed 16 February 2022.

25 Tosoni (n 2) 162. See also Emily Pehrsson, 'The Meaning of the GDPR Article 22' (2018) EU Law Working Papers 31/2018, 22 <https://www-cdn.law.stanford.edu/wp-content/uploads/2018/05/pehrsson_eulawwp31.pdf> last accessed 16 February 2022. It is worth noting that a preliminary ruling procedure regarding the scope of application of Article 22 (1) GDPR is currently pending before the CJEU (Case C-634/21 *SCHUFA Holding*). The Administrative Court of Wiesbaden (Germany) has referred to the CJEU, *inter alia*, the question whether the automated establishment of a probability value concerning the ability of a data subject to service a loan in the future already constitutes a decision within the meaning of Article 22 (1) GDPR, where that value, determined by means of personal data of the data subject, is transmitted by the controller to a third-party controller and the latter draws strongly on that value for its decision on the establishment,

implementation or termination of a contractual relationship with the data subject.

26 Article 29 Data Protection Working Party 'Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679' (WP251rev.01, 6 February 2018) 19, 34-35; Lisa Deuster, 'Automatisierte Entscheidungen nach der Datenschutz-Grundverordnung' (2016) 2 PinC, 75, 77; Mendoza and Bygrave (n 7) 87; Rosemary Jay, *Guide to the General Data Protection Regulation* (Sweet & Maxwell 2017) paras 14-042; Stephan Dreyer and Wolfgang Schulz, *Was bringt die Datenschutz-Grundverordnung für automatisierte Entscheidungssysteme? Potenziale und Grenzen der Absicherung individueller, gruppenbezogener und gesellschaftlicher Interessen* (Bertelsmann Stiftung 2018) 19; Kalthheuner and Bietti (n 8) 10-11; Maja Brkan, 'Do Algorithms Rule the World?', *Algorithmic Decision-Making and Data Protection in the Framework of the GDPR and Beyond* (2019) 27 International Journal of Law and Information Technology 91, 99; Mario Martini, 'DS-GVO Art. 22' in Boris P. Paal and Daniel A. Pauly (eds), *Beck'sche Kompakt-Kommentare, Datenschutz-Grundverordnung, Bundesdatenschutzgesetz* (3rd edn, CH Beck 2021) paras 1 and 29b. Without further explanation Maria-Urania Dovas, 'Automatisierte Einzelentscheidungen' (2017) 2 digma 98, 100; Marcus Helfrich, 'DS-GVO Art. 22' in Gernot Sydow (ed.), *Europäische Datenschutzgrundverordnung, Handkommentar* (2nd edn, Nomos 2018) para 40; Guido Noto la Diega, 'Against the Dehumanisation of Decision-Making – Algorithmic Decisions at the Crossroads of Intellectual Property, Data Protection, and Freedom of Information' (2018) 1 JIPITEC para 47; Sebastian Schulz, 'DS-GVO Art. 22' in Peter Gola (ed.), *Datenschutz-Grundverordnung, Kommentar* (2nd edn, CH Beck 2018) para 5; at that time also Thouvenin, Früh and George (n 1) para 23; Benedikt Buchner 'DS-GVO Art. 22' in Jürgen Kühling and Benedikt Buchner (eds), *DS-GVO/BDSG Kommentar* (3rd edn, CH Beck 2020) para 12; Orla Lynskey, 'General Report Topic 2: The New EU Data Protection Regime' in Jorrit J. Rijpma (ed.), *The New EU Data Protection Regime: Setting Global Standards for the Right to Personal Data Protection* (eleven 2020) 23, 48. See also Reuben Binns and Michael Veale, 'Is that your final decision? Multi-stage profiling, selective effects, and Article 22 of the GDPR' (2021) 11 IDPL 319, 331 et sqq, who refer to Article 22 GDPR as a prohibition by stating that the CJEU might 'expand the notion of Article 22-qualifying decision' in its case-law, but 'lift the Article 22 prohibition [...] by substituting it with a strong ex post right to object or contest'; Aurelia Tamò-Larriex, 'Decision-making by machines: Is the 'Law of Everything' enough?' (2021) 41 CLSR 105541, 14 et sqq, who does not advocate for a data subject right or a general prohibition but identifies the general focus of Article 22 (1) GDPR on the data subject as a shortcoming of the provision.

cise their right.²⁷ In contrast, the enacted version of the GDPR does not contain the verb ‘object’; the absence of the verb can be interpreted as an indication that automated decision-making is only permitted in the (exceptional) cases mentioned in Article 22 (2) GDPR.²⁸

From a systematic point of view, the possibility to derogate from Article 22 (1) GDPR in the case of the data subject’s consent (Article 22 (2) (c) GDPR) suggests that automated decision-making is prohibited as a general rule.²⁹ An additional argument in favour of a prohibition can be drawn from Article 22 (4) GDPR which prohibits the use of special categories of personal data referred to in Article 9 (1) GDPR if automated decision-making is exceptionally permissible according to Article 22 (2) GDPR. If the GDPR did not contain a general prohibition, data subjects would be less protected against automated decisions based on special categories of personal data if the case falls under Article 22 (1) GDPR.³⁰ Some authors also argue that interpreting Article 22 (1) GDPR as a data subject right would mean that such right would be a right to object, which, from a systematic point of view, should have been regulated within the right to object of Article 21 GDPR.³¹ This is underlined, according to the Article 29 Data Protection Working Party, by ‘the lack in Article 22 of an equivalently explicit information duty as that found in Article 21 (4)’.³² A further argument is drawn from the Directive on data protection in law enforcement and, in particular, its Article 11 addressing automated decision-making.³³ Said Article states in the first para-

graph that ‘Member States shall provide for a decision based solely on automated processing, including profiling, which produces an adverse legal effect concerning the data subject or significantly affects him or her, to be prohibited’ unless authorized by a law that provides appropriate safeguards. In view of a coherent interpretation of the data protection framework, Article 22 (1) GDPR should be interpreted as a prohibition as well.³⁴

And finally, some authors argue that, given the technological developments and the spread of complex automated decision-making systems, the GDPR in general and its Article 22 in particular strive to achieve a high level of protection of natural persons with regard to the processing of their personal data. Article 22 GDPR should be interpreted according to this *ratio legis* by considering the provision to prohibit automated decision-making in general.³⁵

2. Data Subject Right

A rather small but still significant minority of authors interprets Article 22 (1) GDPR as a right the data subject may exercise if he or she is subject to an automated decision.³⁶ The scholars supporting this interpretation mainly give four reasons for their point of view: First, they base their interpretation on the wording of Article 22 (1) GDPR in which a ‘right not to be subject to a decision’ is set out.³⁷ Second, they draw on the origins of Article 22 (1) GDPR and its legislative history.³⁸ Third, they derive their view-

27 European Parliament legislative resolution of 12 March 2014 on the proposal for a regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation) (COM(2012)0011 — C7-0025/2012 — 2012/0011(COD)) [2014] OJ C378/399.

28 Deuster (n 26) 77.

29 Article 29 Data Protection Working Party (n 26) 35; Mendoza and Bygrave (n 7) 85. See also Jay (n 26) paras 14-042; Dreyer and Schulz (n 26) 19.

30 cf Pehrsson (n 25) 18; Martini (n 26) para 29b.

31 Article 29 Data Protection Working Party (n 26) 34; Martini (n 26) para 29b.

32 Article 29 Data Protection Working Party (n 26) 34.

33 Directive (EU) 2016/680 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data by competent authorities for the purposes of the prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and on the free movement of such data, and repealing Council Framework Decision 2008/977/JHA [2016] OJ L119/89.

34 Brkan (n 26) 99. See also Lee A. Bygrave, ‘Minding the Machine v2.0, The EU General Data Protection Regulation and Automated Decision-Making’ in Karen Yeung and Martin Lodge (eds), *Algorithmic Regulation* (OUP 2019) 248, 253.

35 Kaltheuner and Bietti (n 8) 10-11; Martini (n 26) para 29b. See also Mendoza and Bygrave (n 7) 87; Brkan (n 26) 99.

36 Wulf Kamlah, ‘DS-GVO Art. 22’ in Kai-Uwe Plath (ed.), *DSC-VO/BDSC Kommentar* (3rd edn, otoschmidt 2018) para 4; Paul Voigt, ‘Teil 2. Datenschutzorganisation im Konzern’ in Axel v.d. Bussche and Paul Voigt (eds), *Konzernschutz, Rechtshandbuch* (2nd edn, CH Beck 2019) ch 6 para 88. See also Anton Vedder and Laurens Naudts, ‘Accountability for the use of algorithms in a big data environment’ (2017) 31 IRLC 206, 213-214; Dag Wiese Schartum, ‘Personvernforordningen og helt automatiserte avgjørelser innen forvaltningsretten’ (2018) 2 Lov&Data, cited in Bygrave (n 34) 253; Tosoni (n 2) 161. Undecided, but with arguments in favour of a data subject right Bygrave (n 24) 252-253.

37 Mendoza and Bygrave (n 7) 85-86; Kamlah (n 36) para 4; Tosoni (n 2) 152-153.

38 cf in particular Tosoni (n 2) 148 et seq, with detailed deliberations.

point from the systematic placement of Article 22 GDPR in Chapter 3 entitled ‘Rights of the data subject’.³⁹ And fourth, they argue that, read in conjunction with the provisions on the information duties and the right of access to personal data,⁴⁰ Article 22 GDPR must stipulate a data subject right. If automated decision-making was prohibited in general, the controller’s duty to inform the data subject about the existence of automated decision-making would not make sense.⁴¹

3. Findings

The analysis of the state of research has shown that legal doctrine puts forward various arguments regarding the interpretation of Article 22 (1) GDPR. Based on these arguments, a majority of scholars advocates for a prohibition, whereas a significant minority understands the provision as a data subject right. Quite surprisingly, the teleological element of interpretation is only considered to a limited extent. The few scholars addressing this element simply and without further elaboration state that the GDPR aims to provide a high level of protection and that, accordingly, Article 22 (1) GDPR is to be interpreted as a prohibition. The rationales of a regulation of automated decision-making are hardly ever addressed. To interpret Article 22 (1) GDPR considering all arguments, we will try to remedy this shortcoming by particularly taking into account at the possible rationales of such a provision.

IV. Interpreting Article 22 GDPR

Based on the overview of the state of research⁴² we will now apply the established methods for the interpretation of EU law⁴³ to provide a reliable answer to the question whether Article 22 (1) GDPR is to be understood as a prohibition of automated decision-making (with the three exceptions stated in Article 22 (2) GDPR) or a data subject right (with identical exceptions). While our analysis will combine all four elements of interpretation, we will put special emphasis on a systematic and a teleological argument, namely the context of Article 22 GDPR within the EU body of law⁴⁴ and the rationale for a provision on automated decision-making⁴⁵, as these arguments have been mostly disregarded so far.

Throughout, we will focus on what appears to be the most relevant arguments, knowing that there are other arguments that could also be taken into consideration. This focus is inevitable as the analysis of the literature and our reflexions and discussions have revealed that Article 22 GDPR leaves almost unlimited room for all sorts of arguments that support one solution or the other. These difficulties, the ongoing debate in legal literature and the following analysis are all striking evidence of the poor drafting of Article 22 GDPR. The very fundamental question we will try to answer should have been resolved by EU lawmakers and not left for scholars and courts to decide.

1. Grammatical Interpretation

Article 22 (1) GDPR states that ‘*the data subject shall have the right not to be subject to a decision* based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her’ [emphasis added]. Like the English wording, most if not all other language versions of the GDPR also speak of a data subject right and not of a general prohibition of automated decisions. For example, the French, German, Italian and Spanish language versions read as follows:

- French: ‘La personne concernée a le droit de ne pas faire l’objet d’une décision [...]’
- German: ‘Die betroffene Person hat das Recht, nicht einer [...] Entscheidung unterworfen zu werden [...]’
- Italian: ‘L’interessato ha il diritto di non essere sottoposto a una decisione [...]’
- Spanish: ‘Todo interesado tendrá derecho a no ser objeto de una decisión [...]’

39 Voigt (n 36) ch 6 para 88. See also Mendoza and Bygrave (n 7) 86.

40 cf art 13 (2) (f), art 14 (2) (g) and art 15 (1) (h) GDPR that expressly refer to art 22 (1) and (4) GDPR and oblige the controller to inform the data subject about cases of automated decision-making.

41 Voigt (n 36) ch 6 para 88. See also Bygrave (n 34) 253; Tosoni (n 2) 156.

42 cf above III.

43 cf above II.

44 cf below IV.3.c.

45 cf below IV.4.

Nevertheless, some scholars argue that it does not clearly follow from its wording whether Article 22 (1) GDPR is a data subject right or a general prohibition directed at the controller.⁴⁶ In our opinion, the wording of Article 22 (1) GDPR undoubtedly speaks in favour of the interpretation as a data subject right. However, this argument does not carry too much weight in light of the numerous editorial flaws of the GDPR.⁴⁷

2. Historical Interpretation

Notwithstanding the fact that the GDPR is a relatively recent regulation, and one would expect that informative material about the drafters' intentions should be available, it is not easy to tell what EU lawmakers had in mind when drafting and adopting Article 22 GDPR. The most important reason is that the regulatory object of the provision that finally became Article 22 GDPR changed several times in the course of the legislative procedure: while the Commission's proposal addressed 'measures based on profiling', the Parliament changed the provision into a 'right to object profiling'.⁴⁸ It was the Council that turned the focus back on a provision on automated individual decision-making (including profiling) similar to the one of the Data Protection Directive (DPD).⁴⁹ While it seems impossible to draw clear conclusions, the historical interpretation does not support the opinion that the 'right to object profiling' which became a 'right not to be subject to an automated decision' amounts to a general prohibition of automated deci-

sion-making just because the wording of Article 22 (1) GDPR no longer contains the verb 'to object'.⁵⁰

Instead, the final version's orientation to Article 15 DPD rather argues in favour of interpreting Article 22 (1) GDPR as a data subject right since Article 15 DPD was quite clearly framed as such a right.⁵¹ However, Article 15 DPD did not contain a clause that allowed automated decision-making if the decision is based on the data subject's explicit consent (art 22 (2) (c) GDPR). This exception is one of the most important arguments for interpreting Article 22 (1) GDPR as a prohibition⁵² and its introduction could be regarded as an expression of the EU lawmakers' intention to abandon the approach taken in the DPD by introducing a general prohibition.

3. Systematic Interpretation

From a systematic point of view, arguments can be derived from the context of Article 22 (1) GDPR within Article 22 GDPR, from the systematic position of Article 22 GDPR within the GDPR and from the context of Article 22 GDPR within the EU body of law. Most of these arguments support the interpretation as a data subject right, some the interpretation as a general prohibition.

a. Article 22 GDPR

Article 22 GDPR contains a general rule (art 22 (1) GDPR), exceptions to this rule (art 22 (2) GDPR) and

46 Voigt (n 36) ch 6 para 88. See also Martini (n 26) paras 29 et seqq.

47 cf Gernot Sydow, 'Einleitung zur Datenschutzgrundverordnung' in Gernot Sydow (ed.), *Europäische Datenschutzgrundverordnung, Handkommentar* (2nd edn, CH Beck 2018) para 47, with various examples of different types of errors in the GDPR.

48 cf art 20 for the differences between the Commission's proposal and the Parliament's draft: European Parliament legislative resolution of 12 March 2014 on the proposal for a regulation of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation) (COM(2012)0011 – C7-0025/2012 – 2012/0011(COD)) [2014] OJ C378/399.

49 cf art 22 of the Position (EU) No 6/2016 of the Council at first reading with a view to the adoption of a Regulation of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), adopted by the Council on

8 April 2016 [2016] OJ C159/1. See also Martini (n 26) paras 9 et seqq.

50 Deuster (n 26) 77 puts this argument forward.

51 cf Tosoni (n 2) 149-150 with a detailed elaboration of this argument. Despite the clear wording of Art. 15 DPD, EU Member States transposed the provision into their national laws in different ways. While some Member States introduced a general prohibition (eg Austria, Belgium, Germany, and Finland), others provided the data subject with a right to object to automated decisions (eg the United Kingdom). Some Member States took a hybrid approach (eg Italy), combining a prohibition for certain types of automated decisions with a right to object to others (cf Mendoza and Bygrave (n 7) 86; Tosoni (n 2) 150 (n 39)). It is not unlikely that the different transpositions of Article 15 DPD are one of the reasons for the current doctrinal dispute about the legal nature of Article 22 (1) GDPR. However, it would seem unjustified to draw conclusions from the different transpositions to resolve this dispute in the GDPR, as the DPD was a directive and, therefore, intended to grant the Member States a certain margin of discretion.

52 cf above III. 1.

suitable measures that must be implemented if one of the exceptions applies (art 22 (3) GDPR). In addition, Article 22 (4) GDPR does not allow that automated decisions taken on the basis of one of the exceptions to the general rule (art 22 (2) GDPR) are based on special categories of personal data (art 9 GDPR), unless such processing is based on the data subject's explicit consent (art 9 (2) (a) GDPR) or is necessary for reasons of substantial public interest (art 9 (2) (g) GDPR).

At first, one might assume that the structure of Article 22 GDPR speaks in favour of interpreting Article 22 (1) GDPR as a general prohibition. According to Article 22 (3) GDPR, the data controller has to implement suitable safeguards, at least the right to obtain human intervention on the part of the controller, the right to express his or her point of view and the right to contest the decision if an automated decision is necessary for entering into, or performance of, a contract (art 22 (2) (a) GDPR) or it is based on the data subject's consent (art 22 (2) (c) GDPR). The right to obtain human intervention is essentially what Article 22 (1) GDPR would confer to the data subject if this provision was interpreted as a data subject right. In contrast to what some authors argue,⁵³ such an interpretation does not render the right to obtain human intervention provided in Article 22 (3) GDPR superfluous or meaningless as it is only triggered when Article 22 (1) GDPR does not apply.⁵⁴ In fact, these two substantially similar rights have two distinct scopes of application that do not overlap; none of them is superfluous. Given the strict delimitation of the scope of application of Article 22 (1) and Article 22 (2) GDPR, it also makes sense that the additional safeguards provided in Article 22 (3) GDPR (ie the right to express one's point of view and the right to contest the decision) only apply in the case of an exception in the sense of Article 22 (2) GDPR. These rights only need to be granted by law if the data subject cannot avoid being subject to an automated decision because one of the exceptions of Article 22 (2) GDPR applies. In all other cases, the data subject could exercise his or her right to obtain human intervention, to contest the decision and to present his or her point of view by exercising his or her broader right not to be subject to automated decision-making granted in Article 22 (1) GDPR.

A closer look thus reveals that the structure of Article 22 GDPR does not provide clear arguments in favour of one of the two solutions. Rather, the struc-

ture of the article makes sense regardless of whether Article 22 (1) GDPR is interpreted as a data subject right or a prohibition: If this provision is interpreted as a data subject right, Article 22 (2) GDPR provides exceptions to this right and Article 22 (3) GDPR states the suitable measures that must be implemented if one of these exceptions applies and the data subject can therefore not exercise his or her right. If Article 22 (1) is interpreted as a general prohibition, Article 22 (2) GDPR provides the exceptions to this rule and Article 22 (3) GDPR states the suitable measures that need to be implemented in these cases. In either case, Article 22 (4) prohibits the use of special categories of personal data if one of the exceptions stated in Article 22 (2) applies.

As opposed to the overall structure of the provision, the consent exception in Article 22 (2) (c) GDPR provides a powerful argument in favour of interpreting Article 22 (1) GDPR as a general prohibition of automated decision-making which is limited by three exceptions (laid down in Article 22 (2) GDPR). If this provision was a data subject right that needed to be exercised, data subjects could simply abstain from exercising their right whenever they are willing to be subject to an automated decision. A consent exception like Article 22 (2) (c) GDPR would not be necessary.⁵⁵

b. GDPR

Article 22 GDPR is part of Chapter 3 of the GDPR which is entitled 'Rights of the data subject'. The systematic position of Article 22 GDPR provides a strong argument for the interpretation as a data subject right.⁵⁶

At first, it seems that this argument can be countered by the fact that Chapter 3 does not exclusively contain data subject rights but also includes controllers' obligations such as the information duties in Article 12 et seq GDPR and the notification duties in

53 cf above III.1.

54 cf Tosoni (n 2) 155, according to whom the right to object to an automated decision (art 22 (1) GDPR) and the right to obtain human intervention (art 22 (3) GDPR) have distinct and autonomous effects.

55 cf Article 29 Data Protection Working Party (n 26) 35; Mendoza and Bygrave (n 7) 85; Dreyer and Schulz (n 26) 19.

56 cf above III.2.

Article 19 GDPR.⁵⁷ However, this is not convincing. Chapter 3 is not only entitled 'Rights of the data subject'; this chapter also primarily contains the provisions providing such rights. Including controllers' information and notification duties in Chapter 3 makes sense both from a substantial and a systematic point of view as these duties are closely related to data subject rights, namely the right of access (Article 15 GDPR) and the right to rectification (Article 16 GDPR), the right to erasure (Article 17 GDPR) and the right to restriction of processing (Article 18 GDPR). The information duties and the right of access jointly ensure a high level of transparency and there is a substantial overlap with regard to the information that needs to be provided proactively (information duties) or reactively (right of access). In addition, the notification duty of controllers in case of rectification or erasure of personal data or restriction of processing (Article 19 GDPR) only exists if data subjects used their respective rights. Accordingly, the provisions on information and notification duties (Article 12 et seq GDPR; Article 19 GDPR) are well-founded exceptions to the rule that Chapter 3 of the GDPR contains the rights of data subjects. The fact that such exceptions exist does not provide an argument supporting the claim that Article 22 GDPR should also be considered an exception and thus not be interpreted as a data subject right. Instead, a separate argument would be needed to explain why EU lawmakers included Article 22 GDPR in Chapter 3 that contains the rights of the data subjects even though this provision was not intended to be a data subject right. From a systematic point of view, a general prohibition of a specific kind of data processing such as the processing of personal data for automated individual decision-making would have best fitted in Chapter 2 containing the principles, eg as a separate pro-

vision after Article 9 GDPR stating a general prohibition (with numerous exceptions) of the processing of special categories of personal data.

The regulation of specific information duties regarding automated decision-making provides another strong argument in favour of interpreting Article 22 (1) GDPR as a data subject right.⁵⁸ According to Article 13 (2) (f) and Article 14 (2) (g) GDPR, the controller shall inform the data subject about 'the existence of automated decision-making, including profiling, referred to in Article 22 (1) and (4)'. If automated decision-making was prohibited by Article 22 (1) GDPR, the controller's duty to inform the data subject about the existence of automated decision-making would be pointless. The GDPR would require the controller to provide information about an activity it actually prohibits.⁵⁹ This contradiction is highlighted by the fact that Article 13 (2) (f) and Article 14 (2) (g) GDPR specifically point to Article 22 (1) GDPR. If Article 22 (1) GDPR did provide for a general prohibition of automated decision-making and Article 22 (2) GDPR contained exceptions to this rule, information duties would make sense if the information had to be provided in case of one of the exceptions mentioned in Article 22 (2) GDPR. Thus, Article 13 (2) (f) and Article 14 (2) (g) GDPR would need to refer to Article 22 (2) not Article 22 (1) GDPR. Conversely, if Article 22 (1) GDPR is considered as a data subject right it makes perfect sense that controllers must inform data subjects about an automated decision-making thereby allowing them to decide whether they want to make use of their right not to be subject to such a decision.

c. EU Body of Law

The context of the GDPR within the EU Body of Law provides arguments in favour of an interpretation of Article 22 (1) GDPR as a data subject right.

As pointed out by some authors, an argument can be drawn from the Directive on data protection in law enforcement. Article 11 of this Directive explicitly prohibits automated decision-making unless authorised by EU or Member State law. To better align with the Directive, Article 22 (1) GDPR should, according to these authors, also be interpreted as a prohibition.⁶⁰ In our opinion, however, the provision in the GDPR should be regarded as a *lex generalis* and the one in the Directive as a *lex specialis* for the use of automated decision-making in the field of law en-

57 cf Article 29 Data Protection Working Party (n 26) 34.

58 cf above III.2.

59 Some might try to solve this contradiction by considering the information duties as triggered only if an automated decision is exceptionally permissible according to Art 22 (2) GDPR. cf Matthias Bäcker, 'DS-GVO Art. 13' in Jürgen Kühling and Benedikt Buchner (eds), *DS-GVO/BDSD Kommentar* (3rd edn, CH Beck 2020) para 53. This is, however, barely convincing because art 13 (2) (f) and art 14 (2) (g) GDPR only refer to art 22 (1) and (4) GDPR. Moreover, the duty to inform would be redundant in the case of the consent exception (art 22 (2) (c) GDPR) as the data subject must already have been informed about the planned automated decision in order to give his or her valid consent.

60 cf above III.1.

forcement.⁶¹ Public authorities take measures within the state's monopoly on the use of force that (potentially) restrict the fundamental rights of the individuals concerned.⁶² Not only from a substantive (ie with regard to their respective scopes of application) but also from a systematic point of view, it would be wrong to interpret a *lex generalis* in a way to align it with a *lex specialis*. Quite to the contrary, the *lex generalis* contains a general rule that applies in a broad range of cases and the *lex specialis* derogates from this rule for its more specific scope of application. Furthermore, the drafters clearly chose the wording of a prohibition in the case of the Directive, whereas it opted for the wording as a data subject right in the GDPR. This could suggest that the drafters deliberately used different language⁶³ to establish a general prohibition in the Directive⁶⁴ and a data subject right in GDPR. Otherwise, the drafters may just as well have used the wording of Article 11 (1) of the Directive in Article 22 (1) GDPR.

Most importantly, the European Commission's Proposal for an Artificial Intelligence Act (AI Act Proposal)⁶⁵ provides a strong argument for interpreting Article 22 (1) GDPR as a data subject right. This act is intended to regulate the placing on the market, the putting into service and the use of AI systems (art 1 (a) AI Act Proposal). Such systems are defined in Article 3 (1) AI Act Proposal as a system that (i) receives machine and/or human-based data and inputs; (ii) infers how to achieve a given set of human-defined objectives using learning, reasoning or modelling im-

plemented with the techniques and approaches listed in Annex I to the AI Act⁶⁶, and (iii) generates output in the form of content (generative AI systems), predictions, recommendations or decisions, which influence the environments it interacts with. This deliberately broad definition of AI and the definition of automated decision-making in Article 22 GDPR are not identical and each definition encompasses cases that are not covered by the other since automated decision-making does not necessarily rely on AI systems and AI systems do not necessarily lead to decisions which produce legal effects for or similarly significantly affect an individual.. However, there is a very substantial overlap. With the current state of technology, automated decision-making in the sense of Article 22 GDPR relies in very many cases on the use of AI systems as defined in the AI Act Proposal and many of the decisions that are regulated by the AI Act also fall under Article 22 GDPR. The substantial overlap of the scope of application of Article 22 GDPR and the AI Act Proposal is evidenced by the fact that the two examples for automated decision-making mentioned in Recital 71 of the GDPR, namely the recruitment and selection of employees and the evaluation of the creditworthiness of natural persons, are explicitly mentioned in Annex III and in the Recitals of the AI Act⁶⁷ and are thus also covered by its provisions.⁶⁸

The AI Act Proposal is based on the European Commission's conviction that AI 'can bring a wide array of economic and social benefit across the en-

61 cf art 2 (2) (d) GDPR and art 1 (1) of the Directive.

62 cf Tosoni (n 2) 158.

63 cf Brkan (n 26) 98; Tosoni (n 2) 152.

64 Interestingly, Recital 38 of the Directive does not refer to a general prohibition but states that 'the data subject should have the right not to be subject to a decision [...]'. However, there does not seem to be any (other) reason to question whether Article 11 of the Directive contains a general prohibition given its clear wording.

65 The EU Commission adopted the proposal for the AI Act on 21 April 2021; a first partial compromise text has been published on 29 November 2021. References to the AI Act proposal are to this most recent version.

66 These technologies are: (a) Machine learning approaches, including supervised, unsupervised and reinforcement learning, using a wide variety of methods including deep learning; (b) Logic- and knowledge-based approaches, including knowledge representation, inductive (logic) programming, knowledge bases, inference and deductive engines, (symbolic) reasoning and expert systems; (c) Statistical approaches, Bayesian estimation, search and optimization methods.

67 Annex III 4 (a) and 5 (c) and Recitals 36 and 37 AI Act Proposal.

68 In addition, there are further examples of systems which will fall within the scope of Article 22 GDPR and the scope of the AI Act, namely insurance premium setting, underwriting and claims assessment (Annex III 5 (d) and Recital 37 AI Act Proposal), social scoring in the sense of Article 5 (1) (c) AI Act Proposal. (cf Hanna Hoffmann, 'Regulierung der Künstlichen Intelligenz' (2021) K&R 369, 370, according to whom Article 22 GDPR and the AI Act Proposal should have been harmonised regarding social scoring. See also Philipp Hacker and Jan-Hendrik Passoth 'Varieties of AI Explanations Under the Law. From GDPR to the AIA, and Beyond' in Andreas Holzinger and others (eds), *xxAI – Beyond Explainable AI* (Springer 2022) 343, 350; Binns and Veale (n 26) 322 et seqq, on triaging within anomaly detection systems, where 'the categorization determines the future decision pathway that the case continues along'. Thustriaging, understood as 'systems which result in some solely automated decisions, but where the status of the effects produced by those decisions (namely, whether they are legal or similarly significant) is ambiguous' (Binns and Veale (n 26) 322), proves relevant for dual coverage. Such systems may be pertinent to various applications of anomaly detection, being covered by both Article 22 GDPR and the AI Act.

tire spectrum of industries and social activities'.⁶⁹ As 'AI can also bring about new risks or negative consequences for individuals or the society (...) the EU is committed to strive for a balanced approach'.⁷⁰ Accordingly, the AI Act Proposal applies a risk-based approach⁷¹ and distinguishes three fields of AI applications: prohibited AI practices⁷², high-risk AI systems⁷³ and other AI systems.⁷⁴ With the exception of the (four) explicitly prohibited AI practices enumerated in Article 5 AI Act Proposal, the use of AI systems is generally permitted, even though subject to a series of conditions in the case of high-risk AI systems⁷⁵. The AI Act Proposal thus clearly shows the intention of the European Commission to allow and even foster the use and development of AI systems.⁷⁶ As evidenced by the definition of such systems in the AI Act Proposal, this also pertains to decision-making systems – including the ones that fall within the scope of application of Article 22 GDPR.

Given the deliberately permissible approach of the EU in the AI Act Proposal, the view that Article 22 GDPR should be interpreted as a prohibition of automated decision-making can hardly be sustained. Instead, a coherent application of the future AI Act and the GDPR clearly calls for an interpretation of Article 22 (1) GDPR as a data subject right.

4. Teleological Interpretation

The purposes EU lawmakers had in mind when enacting Article 22 GDPR are opaque. They are neither stated in Article 22 GDPR nor in any other provision of the GDPR and the recitals do not contain any helpful indication.⁷⁷ This is quite surprising given that Article 22 GDPR differs from the other provisions of the GDPR as it does not contain general rules on the processing of personal data but regulates a quite specific case of processing, the fully automated processing of personal data for decision-making. Accordingly, the lawmakers could have been expected to provide an explanation as to why such a provision is needed and what purposes it should serve.

Given the lack of indication from the lawmakers, a teleological interpretation of Article 22 GDPR must be based on the analysis of the possible rationales of such a provision. While the European lawmakers remained silent on this fundamental question, legal scholars discussed various rationales which deserve closer consideration. Although we will briefly assess the persuasiveness of the different rationales for regulating automated decision-making, the goal of the analysis is much less ambitious as we only need to clarify whether the rationales argue for an interpre-

69 AI Act Proposal, Explanatory Memorandum, s 1.1.

70 AI Act Proposal, Explanatory Memorandum, s 1.1.

71 For an understanding of the so called 'risk-based approach' pursuant to the AI Act Proposal see Christoph Engelmann, Nico Brunotte and Hanna Lütken, 'Regulierung von Legal Tech durch die KI-Verordnung' (2021) RD 317, para 14; David Bomhard and Marieke Merkle, 'Der aktuelle Kommissionsentwurf und praktische Auswirkungen' (2021) RD 276, para 19.

72 The prohibited AI practices are enumerated in art 5 (1) AI Act Proposal; they are: (1) Subliminal manipulation resulting in physical/psychological harm; (2) exploitation of vulnerabilities of specific groups of persons due to their age, disability or social or economic situation resulting in physical/psychological harm; (3) social scoring; (4) real-time biometric identification systems for law enforcement purposes in publicly accessible spaces (with exceptions).

73 Article 6 AI Act Proposal sets forth the classification rules for high-risk AI systems and mentions three categories: (i) AI systems that are a product covered by the EU legislation listed in Annex II to the AI Act and are required to undergo a third-party conformity assessment (ii) AI systems that are intended to be used as a safety component of a product covered by the EU legislation listed in Annex II to the AI Act and (iii) AI systems referred to in Annex III to the AI Act.

74 These systems are not regulated in the AI Act Proposal. They are only mentioned in art 69 AI Act Proposal stating that the Commission and the Member States shall encourage and facilitate the drawing up of codes of conduct for AI systems 'other than high-risk AI systems'.

75 The most important conditions pertain to the use of high-quality training, validation and testing data (art 10 AI Act Proposal), the provision of technical documentation (art 11 AI Act Proposal), record-keeping (art 12 AI Act Proposal), the granting of transparency and providing of information to users (art 13 AI Act Proposal), ensuring human oversight (art 14 AI Act Proposal) and ensuring of accuracy, robustness and cybersecurity (art 15 AI Act Proposal).

76 AI Act Proposal, s 1.1.: 'Against this political context, the Commission puts forward the proposed regulatory framework on Artificial Intelligence with the following specific objectives: [...]; facilitate the development of a single market for lawful, safe and trustworthy AI applications and prevent market fragmentation. To achieve those objectives, this proposal presents a balanced and proportionate horizontal regulatory approach to AI that is limited to the minimum necessary requirements to address the risks and problems linked to AI, *without unduly constraining or hindering technological development or otherwise disproportionately increasing the cost of placing AI solutions on the market.*' (emphasis added).

77 Recitals 71 and 72 of the GDPR dealing with art 22 GDPR, merely reflect the content of the provision. Even though they indicate concerns about potential machine errors and discrimination, they do not mention the actual objectives of the provision. cf Ulrich Dammann, 'Erfolge und Defizite der EU-Datenschutzgrundverordnung, Erwarteter Fortschritt, Schwächen und überraschende Innovationen' (2016) 7 ZD 307, 313. Even the preparatory work hardly reveals anything about the regulatory objectives of art 22 GDPR. cf Bygrave (n 34) 252; Tosoni (n 2) 160. This probably also stems from the fact that the phenomenon to be regulated by the provision changed several times in the course of its genesis. cf above IV.2; Martini (n 26) paras 9 et sqq.

tation of Article 22 (1) GDPR as a general prohibition or a data subject right.

a. Object Formula

It is sometimes argued that automated decision-making must be regulated because people should not be made the objects of decisions taken by ‘machines’ as this would violate human dignity and autonomy.⁷⁸ However, with the current state of technology, even automated decisions are not (yet) made autonomously by machines alone. They still require human planning and the machines merely follow rules either set up or at least approved by humans. Above all, the decisive point for the protection of human dignity lies in the fact that humans must not be treated like objects – regardless of whether this is done by a machine or another human being. Given these weaknesses, the object formula can hardly serve as a rationale for the regulation of automated decision-making.

Even if one were to accept this rationale, the object formula would not provide a convincing argument for interpreting Article 22 (1) GDPR as a general prohibition. Quite to the contrary. As long as data subjects are informed that they are to be subject to a decision solely taken by automated means, the aim of strengthening human dignity and autonomy calls for interpreting Article 22 (1) GDPR as a data subject right since granting data subjects a right to object to automated decision-making would ensure that they are not treated as objects of decisions taken by machines but as subjects that decide for themselves whether a decision is to be taken by a human being or a machine.

b. Decision Quality

The GDPR’s regulation of automated decision-making seems to be based on the same assumption that motivated the European lawmakers in the mid-1990s to address automated decision-making in the DPD: At the time and since the 1960s, policy makers did not have confidence in the ability of automated decision-making systems to make appropriate differentiations,⁷⁹ leading to the assumption that decisions taken by machines were of inferior quality compared to those taken by human beings. Even for the quite common situations in which machines do not take decisions but only provide the relevant information to human decision-makers and make a suggestion on how to decide, European lawmakers feared in the 1990s that human decision-makers could erroneously attribute an apparently objective and incontrovertible character and an excessive significance to the results provided by machines.⁸⁰

This very general assumption seems no longer justified: The ability to take high quality decisions depends primarily on the decision rules applied and the amount of information that can be factored in. If sufficiently large databases containing high quality data are used to train and test automated decision-making systems, high quality algorithms can be developed. In addition, such systems can process incomparably large amounts of data and incorporate them into decisions when they are applied. Human beings, in contrast, can only process limited amounts of information and their reasons for taking a decision are often opaque; in addition, human decision-makers often rely on heuristics⁸¹ and they are subject to all sorts of biases⁸² and cognitive fatigue.⁸³ Thus, in

78 Werner Pfeil, ‘„Der Mensch steht höher als Technik und Maschine“ – Benötigen wir ein Grundrecht zum Schutz vor Künstlicher Intelligenz?’ (2020) 2 InTeR 82, 89. See also Thouvenin, Früh and George (n 1) para 18 with further references; Zarsky (n 6) 1016-1017; Rolf H. Weber, ‘Dürfen Maschinen über Menschen entscheiden?, Eine rechtliche Auslegeordnung im Lichte neuer Technologien’ (2019) Schweizer Monat Februar 72, 73; von Lewinski (n 3) para 2.

79 Hans Huber, *Das Recht im technischen Zeitalter: Rektoratsrede* (Haupt 1960) 13; Thouvenin, Früh and George (n 1) para 4.

80 cf Amended proposal for a Council Directive on the protection of individuals with regard to the processing of personal data and on the free movement of such data, 15 October 1992, COM(92) 422 final, 26: ‘The danger of the misuse of data processing in decision-making may become a major problem in future: the result produced by the machine, using more and more sophisticated software, and even expert systems, has an apparently objective and incontrovertible character to which a human decision-maker may attach too much weight, thus abdicating his own responsibilities.’; Bygrave (n 6) 18.

81 cf, *inter alia*, Amos Tversky and Daniel Kahneman, ‘Judgment under Uncertainty: Heuristics and Biases’ (1974) *Science* 1124, *passim*.

82 Christopher Kuner and others, ‘Editorial – Machine Learning with personal data: is data protection law smart enough to meet the challenge?’ (2017) 7 IDPL, 1, 1-2; John Zerilli and others, ‘Transparency in Algorithmic and Human Decision-Making: Is There a Double Standard?’ (2019) 32 *Philosophy and Technology* 661, 675.

83 cf, *inter alia*, Phillip L. Ackermann, ‘100 Years Without Resting’ in Phillip L. Ackermann (ed), *Cognitive fatigue: Multidisciplinary perspectives on current research and future applications* (American Psychological Association 2011) 12, 40, referring to ‘performance effects associated with fatiguing conditions as work decrement’ and a ‘joint function of time on task and the amount of attention demanded by the task at any one time’. See also Hacker and Passoth (n 68) 363, regarding the role of cognitive optimization in addressing limited human processing capabilities, for achieving actionable explanations of AI.

many cases, automated decision-making systems outperform human decision-makers already today.⁸⁴ Given the rapid technological development in the field of AI, it is safe to assume that such systems will become even better. Hence, there seems to be no (more) convincing reason for the assumption that automated decisions are generally of lower quality than human decisions.

Against this background and although considerable doubts regarding the quality of automated decisions remain, a prohibition of automated decision-making would not solve the problem. Instead, law-makers should provide sufficient incentives and/or establish rules that enhance the quality of automated decision-making, namely by imposing legal consequences in case of automated decisions with harmful effects or by providing guidance on how automated decision-making systems should be designed and used. The former can be ensured by anti-discrimination laws and liability regimes, the latter approach is the one taken in the AI Act Proposal. In addition, automated decision-making could be prohibited in sector-specific regulations if a high level of decision quality cannot be achieved in a particular sector.

c. Fairness

Another possible rationale for regulating automated decision-making is the establishment of fairness. However, it is largely unclear how fairness is to be defined⁸⁵ and even more so how such a broad concept could be applied in legal provisions. In the context of automated decision-making, the very vague concept of fairness is often closely linked to the more specific problems of bias and discrimination. While bias encompasses any inclination or prejudice for or against one person or group, especially in a way considered to be unfair,⁸⁶ discrimination means a different treatment of individuals (or groups of individuals) from other individuals (or groups of individuals) based on certain protected characteristics such as gender, age, sexual preferences, and the like.⁸⁷

Decisions that are based on protected characteristics would violate the prohibition of discrimination in Article 21 of the Charter of Fundamental Rights of the EU⁸⁸ and they could result in claims under various EU directives that apply not only in relation with public authorities but also with private actors.⁸⁹ Anti-discrimination rules apply irrespective of whether a decision is taken by a human being or a machine.

84 Some of the most prominent examples of AI outperforming human decision-makers are in the field of image processing and image segmentation. They cover uses in medicine, such as in dermatology, radiology, and oncology. cf, *inter alia*, Hua Zhang and others, 'Deep Learning Model for the Automated Detection and Histopathological Prediction of Meningioma' (2021) 19 *Neuroinformatics* 393, *passim*. Other examples are in the field of logistics (Martijn Mes and Wouter van Heeswijk, 'Comparison of Manual and Automated Decision-Making with a Logistics Serious Game' in Eduardo Lalla-Ruiz, Martijn Mes and Stefan Voss (eds), *Computational Logistics ICCL 2020* (Springer 2020) 698, *passim*) and aviation security. cf, *inter alia*, Jonas Aust and others, 'Automated Defect Detection and Decision-Support in Gas Turbine Blade Inspection' (2021) 8 *aerospace* 29, 30. Another example is computer-based personality judgements. cf, *inter alia*, Wu Youyou, Michal Kosinski and David Stillwell, 'Computer-based personality judgments are more accurate than those made by humans' (2015) 112 *PNAS* 1036, *passim*. For the use in credit scoring, weighing explainability against accuracy. cf Hacker and Passoth (n 68) 350, where the authors discuss further increases in performance within more complex models (such as deep neural networks), compared to simpler, yet globally explainable models.

85 cf on this issue Joshua A. Kroll and others, 'Accountable Algorithms' (2017) 165 *U. Pa. L. Rev.* 633, 685 et seq; Sam Corbett-Davies and Sharad Goel, 'The Measure and Mismeasure of Fairness: A Critical Review of Fair Machine Learning' (2018) *passim* <<https://arxiv.org/pdf/1808.00023.pdf>> last accessed 16 February 2022.

86 Corbett-Davies and Goel (n 87) *passim*. See also Angwin Julia and others, 'Machine bias: There's software used across the country to predict future criminals and it's biased against blacks' (2016) *ProPublica* *passim*; Day Matt, 'How LinkedIn's search engine may reflect a gender bias' *The Seattle Times* (Seattle, 31

August 2016); Ensign Danielle and others, 'Runaway Feedback Loops in Predictive Policing' (2018) 81 *PMLR* 1, *passim*.

87 eg art 2 (2) of the Council Directive 2000/43/EC of 29 June 2000 [2000] OJ L180/22 on *direct discrimination*: '(a) direct discrimination shall be taken to occur where one person is treated less favourably than another is, has been or would be treated in a comparable situation on grounds of racial or ethnic origin'; further eg art 2 (2) of Council Directive 2000/78/EC of 27 November 2000 [2000] OJ L303/16 on *indirect discrimination*: '[...] (b) indirect discrimination shall be taken to occur where an apparently neutral provision, criterion or practice would put persons having a particular religion or belief, a particular disability, a particular age, or a particular sexual orientation at a particular disadvantage compared with other persons unless [...]'.⁸⁷

88 Charter of Fundamental Rights of the European Union (Charter) [2012] OJ C326/39. The provisions of the Charter, however, are only addressed to the institutions, bodies, offices and agencies of the Union and to the Member States when they are implementing Union law (Article 51 Charter).

89 Council Directive 2000/43/EC (n 85), prohibits discrimination based on racial or ethnic origin in employment, social protection and welfare, education and access to and supply of goods and services. Gender discrimination is prohibited in employment and occupation by Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation [2006] OJ L204/23, and in the access to and supply of goods and services by Council Directive 2004/113/EC of 13 December 2004 implementing the principle of equal treatment between men and women in the access to and supply of goods and services [2004] OJ L373/37. Exclusively in the field of employment and occupation, Council Directive 2000/78/EC (n 87), protects against discrimination on grounds of religion or belief, disability, age or sexual orientation.

While anti-discrimination law may need to be re-interpreted or even amended to ensure it can meet the challenges of automated decision-making,⁹⁰ discrimination can only be meaningfully addressed by anti-discrimination rules and not by a general provision on automated decision-making, irrespective of whether such a provision is interpreted as a prohibition or a data subject right.

Unlike discrimination, bias is not a legal concept and there are no legal remedies against decisions that are merely biased but not discriminatory. Requiring automated decision-making to be unbiased would thus mean applying a higher standard for decisions taken by machines than by human beings. This is hardly convincing as biases in automated decisions usually reflect the biases contained in the data used for training the AI systems. If lawmakers wanted to avoid biased decisions, they would have to establish rules that apply to decisions made by humans and machines alike.

Ensuring fairness can hardly serve as a convincing rationale for a regulation of automated decision-making as the legally relevant aspect of this very vague and broad concept – the protection against discrimination – is already addressed in anti-discrimination laws. In any case, this rationale does not argue for interpreting Article 22 (1) GDPR as a prohibition of automated decision-making as bias and discrimination cannot be eliminated if decisions are taken by human beings. Instead, interpreting Article 22 (1) GDPR as a data subject right would enable data subjects to contest the decision and request human intervention. They could claim that the decision was biased or discriminatory and the human decision-maker could revise the decision. Thus, if one were to accept fairness as a rationale for regulating automated decision-making, this rationale would support the interpretation of Article 22 (1) GDPR as a data subject right.

d. Transparency

Ensuring transparency is sometimes mentioned as a rationale for regulating automated decision-making.⁹¹ In fact, individuals affected by such decisions are often unaware of the use of automated decision-making systems and they do not understand the logic such decisions are based on.⁹² This is problematic as many people will only accept a decision they are subject to if they understand the reasons that led to

that decision. In addition, those affected can only challenge a decision if it is comprehensible and can thus be falsified.⁹³ To meet these challenges, two aspects need to be distinguished: First, the law should safeguard that individuals who are subject to an automated decision are informed of this fact. Second, an appropriate regulation should ensure that individuals are able to understand the rationale the automated decision is based on and the facts that have been taken into account. Both requirements are equally important, and they have already been established to some extent in the GDPR⁹⁴. Additional transparency requirements will be enacted as part of the future AI Act.⁹⁵ While ensuring transparency is a key rationale for regulating automated decision-making, it does not call for a prohibition of such decision-making. In fact, the transparency requirements of the GDPR and the future AI Act only make sense if automated decision-making is not prohibited.⁹⁶ Thus, the rationale of transparency provides a strong argument for interpreting Article 22 (1) GDPR as a data subject right.

Interestingly, the EU applies a higher standard to automated decision-making as there are no general

90 cf. Frederik Zuiderveen Borgesius, 'Strengthening legal protection against discrimination by algorithms and artificial intelligence' (2020) 24 *The Journal of Human Rights* 1572 *passim*.

91 Eva Thelissen, 'Towards Trust, Transparency, and Liability in AI/AS Systems' (Proceedings of the Twenty-Sixth IJCAI, Melbourne, August 2017) 5215, 5215-5216.

92 Kaltheuner and Bietti (n 8), 11; Florent Thouvenin et al., 'Towards Principled Regulation of Automated Decision-Making (ADM) – A Workshop Report' (2019) paras 3.5-3.6 <<https://www.itsl.uzh.ch/dam/jcr:edba006c-8452-4ffc-bbb0-fd8fde62d114/Workshop%20Report%20Lavin.pdf>> last accessed 16 February 2022. See also Gesellschaft für Informatik, *Technische und rechtliche Betrachtungen algorithmischer Entscheidungsverfahren, Studien und Gutachten im Auftrag des Sachverständigenrats für Verbraucherfragen* (SVRV 2018) 161; Datenethikkommission der Bundesregierung, *Gutachten der Datenethikkommission* (DEK 2019) 169.

93 Mario Martini, 'Algorithmen als Herausforderung für die Rechtsordnung' (2017) 72 *JZ* 1017, 1018; Emre Bayamlioglu, 'Contesting Automated Decisions: A View of Transparency Implications' (2018) 4 *EDPL* 433, 440. See also Thouvenin et al. (n 92) para 4.7.

94 Art 13 (2) (f) and art 14 (2) (g) GDPR; cf. above IV.3.b.

95 Art 11 AI Act Proposal regarding technical documentation; art 12 AI Act Proposal regarding record-keeping; art 13 AI Act Proposal regarding transparency and provision of information to users; art 52 AI Act Proposal establishing an obligation of AI system providers to ensure that AI systems intended to interact with natural persons are designed and developed in such a way that natural persons are informed that they are interacting with an AI system, unless this is obvious from the circumstances and the context of use.

96 cf. above IV.3.b.

transparency requirements for decisions taken by human beings even though such decisions can be just as opaque as those taken by machines.⁹⁷ In fact, explanations given by human decision-makers often fail to accurately reflect the relevant decision factors — be it consciously or unconsciously. In cases in which a duty to give reasons for a human decision exists — either required by law or by social norms — this duty is often fulfilled by an explanation provided ex post to justify a decision that was actually made according to very different criteria. From this perspective, requiring transparency of automated decision-making has great potential as it can ensure that decisions taken by machines become more transparent than those made by humans. It may be difficult to fully understand the operation of an automated decision-making system as AI systems, especially when applying machine learning technologies, can be a black box⁹⁸. But the use of automated decision-making allows at least theoretically to analyse and fully understand the processes and relevant factors of decisions taken by machines while the real reasons behind human decisions will often remain hidden.

e. Findings

The analysis of possible rationales provides a rather clear result. If one does not reject the object formula in the first place, human dignity and autonomy seem to be better protected by empowering data subjects with a right not to be subject to automated decisions.

Moreover, the aim of ensuring decision quality does not provide a sound argument for interpreting Article 22 (1) GDPR as a prohibition of automated decision-making. This would only apply if human decisions were generally of better quality than decisions made by machines. While it is impossible to make a general assessment of which type of decision-making leads to better decision quality, it seems safe to assume that automated decisions are not generally of lower quality than human decisions. Instead of prohibiting automated decision-making by interpreting Article 22 (1) GDPR accordingly, the European lawmakers should rather create rules and incentives

that promote the quality of automated decisions. First steps have been taken in the AI Act Proposal.

Similar considerations apply to the rationale of fairness. Bias and discrimination cannot be eliminated by prohibiting automated decision-making as they are equally present in human decisions. Instead, discrimination must be addressed by a suitable application of existing anti-discrimination laws. If fairness was to be accepted as a rationale for regulating automated decision-making, Article 22 (1) GDPR should be interpreted as a data subject right, as this would allow data subjects to contest and the decision-maker to revise the allegedly unfair decision.

Transparency is a key rationale for regulating automated decision-making both with regard to the fact that a decision is made by a machine and with regard to the processes applied and the factors taken into account. However, this rationale does not call for interpreting Article 22 (1) GDPR as a prohibition. In fact, the provisions of the GDPR that ensure transparency only make sense if Article 22 (1) GDPR is interpreted as a data subject right. Thus, the rationale of transparency clearly speaks in favour of interpreting Article 22 (1) GDPR as a data subject right.

Since the European lawmakers did not provide clear guidance as to the rationale of Article 22 GDPR and given the different views on potential rationales put forward by legal scholars, a teleological interpretation cannot provide an undisputable result. However, the better arguments support the interpretation of Article 22 (1) GDPR as a data subject right.

V. Conclusion

Many different arguments can be brought forward when interpreting Article 22 (1) GDPR on automated individual decision-making; some speak in favour of interpreting the provision as a general prohibition, others speak in favour of a data subject right. It is therefore not surprising that legal doctrine is currently divided.⁹⁹ However, not all arguments are equally convincing. A thorough application of the established methods for the interpretation of EU law quite clearly shows that Article 22 (1) GDPR must be interpreted as a data subject right.

The first argument for this interpretation can be derived from the provision's wording. None of the language versions examined contains language that supports an interpretation as a prohibition; instead,

⁹⁷ Zerilli et al. (n 77) 675.

⁹⁸ cf Frank Pasquale, *The Black Box Society, The Secret Algorithms That Control Money and Information* (Harvard University Press 2015) *passim*; Martini (n 8) *passim*.

⁹⁹ cf above III.

all these language versions use the word ‘right’. As the CJEU regularly attaches little weight to the genesis of a provision for its interpretation, not much can be gained from the historical approach. While the historical interpretation does not allow to draw a clear conclusion, it does certainly not support the opinion that the ‘right to object profiling’ that became a ‘right not to be subject to an automated decision’ amounts to a general prohibition.

Most of the arguments brought forward in legal doctrine deal with the systematics of the provision and its context within the GDPR. Two arguments stand out: On the one hand, the consent exception in Article 22 (2) (c) GDPR would be superfluous if Article 22 (1) GDPR was interpreted as a data subject right. On the other hand, the information duties in the case of automated decision-making (art 13 (2) (f) and art 14 (2) (g) GDPR) would make no sense if automated decision-making was generally prohibited. While these findings contradict each other, a look at the (future) legal order of the EU provides strong support for the interpretation of Article 22 (1) GDPR as a data subject right. As the proposal for an Artificial Intelligence Act will allow (and even foster) almost all sorts of uses of AI systems (prohibiting only four specific use cases) and given that most automated decision-making systems within the meaning of Article 22 (1) GDPR are based on the use of AI systems in the sense of said Act, an interpretation of the latter provision as a general prohibition can hardly be sustained. Instead, a coherent application of the future AI Act and the GDPR clearly calls for an interpretation of Article 22 (1) GDPR as a data subject right.

The teleological interpretation of Article 22 (1) GDPR also provides good arguments in favour of a data subject right. This is especially important as the CJEU accords particular weight to teleological considerations in comparison to other methods of interpretation.¹⁰⁰ The possible rationales of a regulation of automated decisions do not justify the interpretation of Article 22 (1) GDPR as a general prohibition, but indicate that the provision ought to be understood as a data subject right which the affected person must exercise in a given case.¹⁰¹ A closer analysis of the possible rationales also trumps the rather superficial teleological argument brought forward by some scholars according to which automated decision-making must be generally prohibited because the GDPR aims to ensure a high level of protection of natural persons with regard to the processing of their personal data.

Taking into account all the arguments provided by the different methods for the interpretation of (secondary) EU law, understanding Article 22 (1) GDPR as a data subject right is clearly the more convincing result. The most important argument for this interpretation is the need for a coherent application of the future AI Act and the GDPR. As the AI Act will permit the use of AI systems with few exceptions, it would hardly make sense to interpret Article 22 (1) GDPR as a general prohibition of automated decision-making.

¹⁰⁰ cf above II.

¹⁰¹ cf above IV.4.