AUTOMATED CREDIT ADVICE FOR RETAIL CUSTOMERS

A LEGAL PERSPECTIVE ON A CONSUMER-ORIENTED IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE

Father_Studio – stock.adobe.com

Duygu Damar-Blanken, Nafiye Yücedağ
in collaboration with Ingrid Größl, Anne Riechert, Hanne Roggemann and Daniel Daneshian Sherbaf

institut für finanzdienstleistungen e.V.
wissenschaftlich | interdisziplinär | gemeinnützig

Suggested citation:

Damar-Blanken, Duygu; Yücedağ, Nafiye (2026): Automated Credit Advice for Retail Customers – A Legal Perspective on a Consumer-Oriented Implementation of Artificial Intelligence. Hamburg: Institute for Responsible Finance (*iff*).

The research project is funded by the DZ BANK Foundation.

This work reflects the state of legislation, case law, relevant legislative initiatives, and literature as of October 31, 2025.

Authors and contributors:

Dr. Duygu Damar-Blanken has been working as a research associate at *iff* since 2020 and is the head of the research project. She is a lawyer whose areas of expertise include consumer credit law, AI law, and anti-discrimination law. Contact: duygu.damar@iff-hamburg.de

Dr. Nafiye Yücedağ is an associate professor at the Faculty of Law at Istanbul University. She is a lawyer whose areas of expertise include AI law and data protection law. Contact: nyucedag@istanbul.edu.tr

Prof. Dr. Ingrid Größl has been conducting research on the financial system since the 1990s. She has been a member of the Board of iff since 2017 and has served as the scientific director of *iff* since 2021. Contact: ingrid.groessl@iff-hamburg.de

Prof. Dr. Anne Riechert has been a research director at *iff* since 2023. She is a lawyer whose areas of expertise include AI law and data protection law. Contact: anne.riechert@iff-hamburg.de

Dr. Hanne Roggemann has been working as a research associate at *iff* since 2020. She is an economist and an evaluator. Contact: hanne.roggemann@iff-hamburg.de

Daniel Daneshian Sherbaf is a student assistant at *iff* and assisted with the legal research for this project. Contact: daniel.daneshian.sherbaf@iff-hamburg.de

Institute for Responsible Finance (*iff*)

The Institute for Responsible Finance (*iff*) is a non-profit, independent institute that offers scientifically based, interdisciplinary research; consulting, software; and exchange formats. It is founded on the belief that fair participation in the financial system contributes to a just society.

Since 1987, *iff* has contributed to a socially responsible financial system and fair participation by conducting independent research and providing advice to consumer organizations, government agencies, associations, foundations, political stakeholders, and financial service providers. Through its annual conference, *iff* promotes dialogue among various stakeholders. With its debt advice software CAWIN, *iff* also supports the work of debt advice services.

In terms of emphasis, *iff* focuses in particular on the situation of (vulnerable) consumers. It helps identify and analyze problems in the financial system at an early stage. Based on this, it develops solutions that are consumer-oriented and practically feasible.

Table of contents

List of abbreviations

AGG	German Equality Act
AI	Artificial intelligence
art./arts.	Article/articles
BaFin	German Federal Financial Authority
BDSG	Federal Data Protection Act
BGB	German Civil Code
BGH	German Federal Court of Justice
BT-Drs.	Parliamentary reasons
CCD 2008	Consumer Credit Directive of 2008
CCD2	New Consumer Credit Directive
CFR	Charter of Fundamental Rights of the European Union
CJEU	Court of Justice of the EU
CNIL	Commission Nationale de l'Informatique et des Libertés
DPIA	Data protection impact assessment
EDPB	European Data Protection Board
EGBGB	Introductory Act to the German Civil Code
EU	European Union
GDPR	General Data Protection Regulation
GovD	Draft of the Federal Government to implement Directive (EU) 2023/2225 on consumer credit agreements

GPAI	General Purpose Artificial Intelligence
GwG	German Anti-Money Laundering Act
KWG	German Banking Act
LG	Landgericht, i.e. Regional Court
MaRisk	Minimum requirements for risk management, BaFin Circular 06/2024 (BA)
MCD	Mortgage Credit Directive
ML	Machine Learning
mn.	margin number
nPLD	New Product Liability Directive
OLG	Oberlandesgericht, i.e. Higher Regional Court
UCPD	Unfair Commercial Practices Directive
UWG	German Unfair Competition Act
VG	Verwaltungsgericht, i. e. Administrative Court

1. Introduction

1.1. Research subject and questions

Advice in general, and credit advice in particular, are important components in the relationship between banks and consumers. The quality of credit advice enables banks to acquire customers and increase customer satisfaction, thus promoting long-term customer loyalty. Good credit advice is also an important foundation for consumers, especially when deciding which credit product to apply for, but also in terms of other business relationships with the bank, such as making financial investments.

European and German law establish minimum standards for the provision of advisory services in connection with consumer credit agreements. Accordingly, credit advisors may recommend a product or products from the bank's product range only after they have familiarized themselves with the customer's needs, personal and financial situation, preferences, and objectives (exploration) and have, on this basis and in consideration of the expected risks, assessed the credit products' suitability (analysis). The research project first examines whether and what problems exist in meeting these minimum standards in practice; thereafter, it identifies the necessary requirements for competent, consumer-oriented advice in connection with consumer credit contracts.

Beyond meeting minimum legal requirements, an advisory tool supported by artificial intelligence (AI) offers significant potential for addressing the requirements of competent, consumer-oriented credit advice, thereby increasing consumer satisfaction. The use of an AI tool would also reduce the costs of competent credit advice. Furthermore, the AI tool can be used to provide personalized advice and risk assessment. AI-supported credit advice would thus facilitate or enable low-threshold access for consumers to both credit advice as well as credit products and support the bank in customer acquisition and retention.

The development and use of AI-based advisory tools raises numerous legal questions, particularly concerning liability risks, which may stem from anti-discrimination, data protection, or AI-specific regulations. This is especially relevant when banks rely on third parties for the development of such AI tools. Considerations regarding investment costs may even lead to the decision to purchase and deploy an already developed AI tool. The research project, therefore, examines in depth the liability issues that may arise in connection with the development, acquisition, and use of AI systems.

In practice, there is considerable uncertainty regarding which supervisory and civil law provisions apply under specific circumstances. This uncertainty is further amplified by the ongoing debate surrounding the legal definition of artificial intelligence (AI). Against this backdrop, the research project has systematically analyzed existing legal uncertainties. A particular focus was placed on examining the extent to which creditworthiness assessments are incorporated into the credit advisory process and identifying how credit advisory and application processes are structured.

The analysis was based on the following research questions:

1. What regulatory requirements apply to AI systems in credit advisory services?
2. What product-related requirements are imposed by the EU AI Act?

3. What data protection and potentially discrimination risks are posed by AI systems and how can they be addressed?
4. To what extent can AI-supported credit advice represent a unique selling point, thereby increasing customer acquisition and consumer satisfaction?
5. Which liability regulations apply to the use of AI systems in terms of the provision of credit advice?
6. How can consumer-friendly credit advice going beyond minimum legal requirements be designed?

Accordingly, this final report outlines both the opportunities and risks associated with AI-supported credit advice for banks as well as for consumers. Building on this analysis, practical guidelines have been developed with a particular focus on legal risks and challenges. These guidelines are intended to support banks in leveraging the benefits of AI-based credit advice by providing concrete recommendations for action and checkpoints aimed at minimizing legal risks and strengthening consumer orientation and satisfaction. At the same time, the guidelines can serve as a benchmark for competent and consumer-oriented credit advice involving the use of an AI tool.

1.2. Research concept and methodology

To answer the research questions, the current legal situation and relevant literature were first comprehensively researched and evaluated. To establish the initial situation and prepare the questions for the expert interviews, the relevant legal literature in the areas of credit, data protection, and anti-discrimination law, as well as existing court rulings on credit advice, the prohibition of discrimination in private law, and the protection of personal data, were systematically researched and thematically evaluated. Future regulatory projects, especially the implementation of the new Consumer Credit Directive (CCD2) into national law and the amendment of the Federal Data Protection Act (BDSG), were also taken into account. At the time of the legal analysis and preparation of this report, the government draft of the Act Implementing Directive (EU) 2023/2225 on Credit Agreements for Consumers (GovD) was available, which forms the basis for the explanations in this report.[1] The results obtained from the analysis of the existing regulations and legal literature are weighted according to their relevance and topicality.

In order to gain insight into credit advisory practices and existing problems, five exploratory interviews were initially conducted with experts from cooperative banks, investment advisory services, and in the fields of consumer protection and credit intermediation.

In the next step, hypotheses were formulated based on the findings from the analysis of the existing regulations and legal literature and the exploratory expert interviews. These were then discussed in five guided interviews with experts from cooperative banks, academia, and the fields of consumer protection and credit intermediation. An attempt was also made—albeit unsuccessfully—to conduct an expert interview with an online credit platform that acts as a credit intermediary.

[1] Future versions of the legal provisions will be designated with the addition “new”, e.g. § 511 BGB-new.

Interviews were conducted with the following experts:[2]

Expert, Lead Data Scientist at a Bank
Bernhard Dünkel, Head of Credit Risk Management, TeamBank
Michael Piegsa, Sales, Head of Qualification Special Institutes Germany, TeamBank
Felix Krimmel, Head of Sales Management, VR-Bank Memmingen eG
Jennifer Brockerhoff, Brockerhoff Financial Consulting
Expert, Credit intermediation
Kerstin Föller, Head of Insolvency, Credit & Accounts, Hamburg Consumer Advice Center
Alexander Krolzik, Head of Real Estate Financing, Consumer Advice Center Hamburg
Thomas Hentschel, Finance Officer, Consumer Advice Center North Rhine-Westphalia
Expert, Consumer protection
Expert, Data protection and AI law

All of the aforementioned evaluations and results were incorporated into the analysis to conclusively answer the research questions and formulate conclusions and guidelines based on them. Subsequently, all evaluations and analyses conducted within the framework of the research project, as well as the overall results and recommendations for action regarding competent, consumer-oriented credit advice, and the avoidance of risks associated with AI-supported credit advice, have been summarized in this final report and presented along with guidelines.

2. Credit advice

Consumers rely on financial services, especially loans and insurance, as a strategy to cope with uncertainty, particularly to protect themselves against unforeseeable liquidity risks. Consumers effectively exchange uncertainty regarding the occurrence of unexpected events for uncertainty about whether a suitable financial product is being offered. This so-called endogenous uncertainty is rooted in the informational advantage held by financial providers.

In the complex financial world, consumers are typically less informed about individual financial products than providers. Even if the missing information is provided, inadequate financial education often makes it difficult to judge whether the offered financial product fits the respective financial needs. It is in regard to precisely this moment that the legislator is taking action for credit products by, on the one hand, imposing on lenders a product-related explanation obligation (in addition to pre-contractual and contractual information duties) (§ 491a para. 3 BGB),[3] and, on the other hand, establishing minimum standards for advisory services in connection with consumer

[2] Those experts who have not consented to being named are listed as “expert”. References to the expert interviews are presented using anonymized abbreviations derived from German nomenclature. The experts from credit institutions are anonymized with the letter “K,” those from consumer advice centers with the letter “V,” those from credit intermediation with the letters “KV,”, and those from academia with the letter “W.” The authors thank all experts who supported the research project through interviews and thereby provided valuable insights on actual practice.

[3] Art. 16 Directive 2014/17/EU of the European Parliament and of the Council of 4 February 2014 on credit agreements for consumers relating to residential immovable property and amending Directives 2008/48/EC and 2013/36/EU and Regulation (EU) No 1093/2010, OJ 2014 L 60/34 (hereinafter: MCD); Art. 12 Directive (EU) 2023/2225 of the European Parliament and of the Council of 18 October 2023 on consumer credit agreements and repealing Directive 2008/48/EC, OJ 2023 L 67/1 (hereinafter: CCD2); Art. 5 para. 6 Directive 2008/48/EC of the European Parliament and of the Council of 23 April 2008 on consumer credit agreements and repealing Council Directive 87/102/EEC, OJ 2008 L 133/66 (hereinafter: CCD 2008).

credit agreements (§§ 511 and 655a para. 3 BGB).[4] Currently, these standards apply only to advice on mortgage credit agreements (as defined in § 491 para. 3 BGB) (hereinafter: mortgage loan), but they will in the future also be applicable to consumer credit agreements (as defined in § 491 para. 2 BGB) (hereinafter: consumer credits) due to the implementation of the CCD2 into German law.[5]

In this respect, the duty to provide information and credit advice aims at, inter alia, counteracting information asymmetry. The duty to provide product-related information serves to enable consumers to independently assess whether a specific credit agreement meets their intended objective and their financial circumstances (helping them to help themselves).[6] By contrast, credit advice provides an individualized recommendation. Accordingly, credit advice focuses on the individual and his/her financial circumstances, with the goal of recommending a credit product that matches his/her financial circumstances.[7]

As a rule, there is no legal obligation to provide credit advice. Credit advice is, therefore, generally optional. However, the legislature has provided two exceptions to this rule, which concern overdraft facilities and overrunning (§§ 504a, 505 BGB). Since this report does not cover credit granted as overdraft facilities or in relation to overrunning, the mentioned exceptions are not discussed any further.

Consumers must be able to trust that the recommendation made at the end of the credit advisory process is genuinely tailored to their personal circumstances and corresponds to their financial situation.[8] For the vast majority of consumers, neither the provision of information nor a credit recommendation fully eliminates uncertainty regarding the suitability of the product. Rather, trust in the honesty and competent fulfillment of the advisory service is essential for the consumer to be willing to accept the recommended credit product. In this sense, a credit product becomes a credence good, with the consequence that only through actual use will it become clear whether the trust placed in it was justified. Cooperative banks and savings banks generally enjoy greater consumer trust.[9] The following section discusses the concept of credit advice and explains the minimum standards. The insights gained from the expert interviews, especially the existing problems in credit advisory practices, are incorporated to illustrate the extent to which trust in credit institutions could be increased or, alternatively, existing trust might be maintained.

2.1. Advisory services

An advisory service exists when individual recommendations are given to a consumer in respect of one or more transactions related to credit agreements (§ 511 para. 1 BGB).[10] According to this legal definition, advisory services represent a separate activity from the granting or intermediation of credit.[11] However, these separate activities can be combined.[12] Indeed, in practice, advisory services are almost exclusively provided as part of credit intermediation or in the

[4] See also Art. 22 MCD.
[5] See Art. 16 CCD2. The currently applicable CCD 2008 does not contain any provisions on advisory services.
[6] For more information, see Weber in: Säcker et al. 2023 para. 20; Reifner and Feldhusen 2019, § 17 para. 12.
[7] Weber in: Säcker et al. 2023, BGB § 511 para. 1.
[8] On the notion of trust in financial services, see Damar-Blanken et al. i. E., 34 et seq.
[9] Interview KV2.
[10] See § 511 para. 1 BGB-new, art. 4 no. 21 MCD, art. 3 no. 17 CCD2.
[11] See BGH, Judgment of 13 May 2014 – XI ZR 405/12, NJW 2014, 2420 (para. 55).
[12] Recital 63 MCD; BT-Drs. 18/5922, 105; Recital 50 CCD2.

preliminary stages of a credit application. In practice, the processes are usually designed in such a way that credit advice regularly leads to a credit application.[13]

"Every intermediation is preceded by an advisory service [...], intermediation is more of a technical process [...], where at the end of an advisory process a customer has accepted an offer, which is then [...] forwarded to a bank, and prior to that, intensive advisory service takes place."[14]

The basis on which the advisory service is provided is not relevant.[15] It can be provided either as an (express or implied) advisory contract[16] or as a duty of consideration in the initiation of the credit agreement (§§ 311 para. 2, 241 para. 2 BGB).[17] It is important to note that § 511 BGB is applicable whenever an advisory service is provided. § 511 BGB also applies to credit intermediation (§ 655a para. 3 BGB).

An essential component of the advisory service is the individualized recommendation of one or more credit products based on the personal and financial circumstances of the consumer. In this respect, two criteria can be identified: (i) an individualized recommendation based on the personal and financial circumstances of the consumer, and (ii) the recommendation of one or more credit products. An advisory contract is not concluded simply because the lender obtains personal and financial information for the creditworthiness assessment pursuant to § 505a BGB,[18] as it is possible to apply for a loan without any advice. However, in this case, an advisory service can be assumed if the lender addresses the consumer's personal financial circumstances and financing plans for the purpose of comparison of different credit products and compares specific financing offers.[19] An advisory contract also does not exist if the consumer already comes to the bank with a completed financing concept, as in this case the financing decision has already been made.[20]

The existence of a fee agreement is not crucial for definition as an advisory service. Therefore, it can be provided free of charge, which is often the case in current banking practice.[21] In credit intermediation, advisory services are always combined with intermediation[22] and are therefore covered by the commission.

The channel through which the advisory service is provided is also irrelevant. The advisory service can take place at the provider's premises or via remote communication. In practice, the advisory service is provided both in branches or brokerage offices, by telephone, or digitally. In all these cases, software applications are used to capture the data and develop a personalized recommendation based on it.

Furthermore, in the consumer credit sector, software applications that combine credit advice and lending are regularly used. Many banks, including the majority of cooperative banks,

---

[13] Interviews V1, V2, K3.
[14] Interview KV2.
[15] For more information, Krüger 2016, 397 (399 et seq.).
[16] For more information, Weber in: Säcker et al. 2023, BGB § 511 para. 8; Reifner and Feldhusen 2019, § 17 paras. 3, 8; Buck-Heeb and Lang 2016, 320 (329).
[17] Krüger 2016, 397 (401 et seq.); Reifner and Feldhusen 2019, § 17 para. 7; Jungmann in: Ellenberger and Bunte 2022, § 58 para. 225; Weber in: Säcker et al. 2023, BGB § 511 para. 6; expressing the contrary opinion, Ellenberger in: Ellenberger and Nobbe 2023, § 511 para. 2.
[18] Weber in: Säcker et al. 2023, BGB § 511 para. 9; Reifner and Feldhusen 2019, § 17 para. 4.
[19] Reifner and Feldhusen 2019, § 17 para. 4.
[20] Weber in: Säcker et al. 2023, BGB § 511 para. 9.
[21] Interview K3.
[22] Interview KV2.

collaborate with partner banks in the area of consumer credits. If a local cooperative bank collaborates with the center of cooperative banks[23] as partner bank, consumers are informed at the beginning of the advisory service that the credit product is from the partner bank.[24] The partner bank offers the credit, and the (cooperative) bank intermediates it.[25] In these cases, partner banks provide a software application that is operated by the bank advisor. The (cooperative) bank has no influence over the software application.[26] Some of these software applications are also available online on the partner bank's website. In the latter case, the application is operated by the consumer themselves. After the data is collected, the credit application is processed and the credit decision is made. The whole process is fully automated.[27]

For this reason, the legal analysis in the present report is based on the assumption that the AI tool to be developed will integrate both credit advisory and lending functions. Nevertheless, where relevant, the legal framework is also examined for the scenario in which the AI tool is designed solely for credit advisory purposes.

The advisory service must be provided in the best interest of the consumer (art. 22 para. 3 lit. d MCD; art. 16 para. 3 lit. d CCD2).[28] Currently, this requirement arises indirectly from the wording and purpose of § 511 BGB.[29] Through the implementation of the CCD2, it will be explicitly regulated in § 511 para. 3 BGB-new. Furthermore, art. 7 para. 1 MCD and art. 32 para. 1 CCD2 oblige lenders and intermediaries to, among other things, act honestly, fairly, transparently, and professionally when providing advisory services and to take the rights and interests of consumers into account. A bank may take its sales interests into account by limiting to its own products the range of products that will be considered.[30]

The goal of credit advice is to make it easier for the consumer to make a selection decision by providing specific recommendations, thus strengthening consumers' decision-making ability.[31] Objective credit advice must, therefore, be based on the personal situation of the consumer and not on a specific credit product. However, according to the expert interviews with consumer protection organizations, there are fundamental problems in practice. For example, banks regularly focus on the promotion of a specific product. Rather than recommending products in the best interest of consumers, consumer interests are, in a sense, adapted to a credit product that serves the bank's sales objectives. A rough assessment is made as to whether the consumer can meet the monthly installment payment obligation; possible changes in their life situation, however, are not addressed at all. Consequently, the bank's business interests are paramount, not the consumer's interests. These are sales conversations disguised as advisory services.[32] The banks partially acknowledge these concerns. Some banks offer pre-administered products, for

[23] For more information see Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e. V.
[24] Interview K4.
[25] Interview K3.
[26] Interview K4.
[27] Interviews K2, K3 and V2.
[28] Expressing the contrary opinion, Roth in: Langenbucher et al. 2020 BGB § 511 para. 10.
[29] BT-Drs. 21/1851, 123; art. 22 para. 3 lit. d MCD; art. 16 para. 3 lit. d CCD2.
[30] Weber in: Säcker et al. 2023, BGB § 511 para. 10.
[31] BT-Drs. 18/5922, 105.
[32] Interviews V1, V2, V3. See also Hastenteufel and Kiszka 2020, 22.

example, when a particular credit product has been rarely in demand in recent months.[33] The credit amount also plays a role in advisory services. According to the interviewed consumer protection experts, no qualified advice is provided, for example, for consumer credits of 1,000,- or 2,000,- EUR. In such cases, consumers are typically either granted an overdraft facility or their existing overdraft limit is increased—particularly when the consumer has a regular income.[34] Overdrafts are known to be one of the most expensive consumer credits, allowing lenders to make high profits with minimal effort.

2.2. Minimum standards

§ 511 BGB establishes minimum standards for advisory services. Therefore, the lender must provide the advisory service in three steps: exploration, analysis, and recommendation. The current version of the regulation applies only to mortgage loans. Following the implementation of the CCD2 into German law, the same minimum standards will apply to consumer credits as well, starting November 20, 2026.[35] These requirements are set out in § 18a para. 8 KWG, which will also be extended to consumer credits as part of the implementation of the CCD2.

2.2.1. Pre-contractual duty to provide information

According to European law, lenders and intermediaries must explicitly inform consumers whether advisory services are being or can be provided to them (art. 22 para. 1 MCD; art. 16 para. 1 CCD2). This duty to provide information has been regulated in German law only for credit intermediation.[36] There is no national provision obliging lenders to provide information whether advisory services are being provided. Academic literature advocates for further legal development in line with the directive, such that the pre-contractual information duty would also include an indication of whether advisory services are being provided.[37] The draft bill implementing the CCD2 explicitly codifies this obligation in § 511 para. 1 BGB-new.

If advisory services are provided, the consumer must be informed of the amount of the fee, if any, and of the product range.[38] The provider must, above all, provide information about the amount of the fee, if one is charged (Art. 247 § 18 para. 1 no. 1 EGBGB). If the amount of the fee cannot yet be determined, information about the method used for the calculation must be provided (Art. 247 § 18 para. 1 sentence 2 EGBGB). The provider must also inform consumers whether its recommendation is based solely or primarily on its own products or also on a larger number of products from other providers, so that consumers can understand the basis on which the recommendation is made.[39] The term "larger number of products from other providers" is not legally defined. While some literature requires at least 20 percent of the products from other providers to be available,[40] others consider this number to be too low, as it gives consumers the false impression of a comprehensive market overview.[41] Due to the lack of case law on this matter, it is

[33] However, this is not the practice of every bank, Interview K4.
[34] Interviews V1 and V4.
[35] Art. 48 para. 1 CCD2; art. 15 para. 1 GovD.
[36] § 655a para. 2 sentence 1 BGB in conjunction with Art. 247 § 13b para. 1 sentence 1 no. 4 EGBGB.
[37] For more information, Weber in: Säcker et al. 2023, BGB § 511 para. 12; Weber in: Säcker et al. 2023,EGBGB Art. 247 § 18 para. 2.
[38] §§ 511 para. 1, 655a para. 3 BGB in conjunction with Art. 247 § 18 para. 1 EGBGB; § 511 para. 1 sentence 2 BGB-new in conjunction with Art. 247 § 18 para. 1 EGBGB-new.
[39] Recital 50 CCD2.
[40] Weber in: Säcker et al. 2023, EGBGB Art. 247 § 18 para. 4.
[41] Jungmann in: Ellenberger and Bunte 2022, § 58 para. 233.

recommended that the specific number of own and third-party products be disclosed if the advice is based on third-party products as well.[42] It should also be noted that the selection of products reflects only a limited segment of the overall market offering.

The information mentioned must be provided before the conclusion of an advisory contract or, if the services are provided without a contract, before the advisory service is actually provided.[43] This is intended to ensure transparency and, thus, to enable the consumer to make an informed decision as to whether to make use of the advisory service.[44] In practice, however, this information is regularly not addressed in advance. Typically, consumers receive the documents containing pre-contractual information only afterward, together with the documents for the concluded credit agreement. During the advisory service, they are merely informed they will receive all relevant information electronically after the advisory service is concluded.[45] At the same time, it must be acknowledged that consumers generally do not read this information at all.[46] For this reason, it is recommended to disclose information on fees and the product range orally at the beginning of the advisory service in plain language, and to provide it afterwards either electronically or in paper form (cf. Art. 247 § 18 para. 2 EGBGB-new).

The statutory information requirements in consumer credit law in general, and for advisory services in particular, do not take existing deficits in financial literacy into account in their requirements.[47] A significant proportion of consumers lack basic financial knowledge. For example, they are unfamiliar with technical terms, such as the effective annual interest rate or the right to make special repayments, or with the correlation between different features, such as the connection between the repayment rate and the duration of the credit.[48] As a result, they are unable to understand the recommendation made at the end of the advisory service or to evaluate the quality of the advice. In this context, a best practice example has emerged: advisors provide consumers with general explanations on the subject of credit in a brochure in plain language. This includes both technical terms and various credit products and types of subsidies.[49] Building on this best practice example, it is recommended to provide consumers with general information about credit products in easy-to-understand language prior to the advisory service. Advisors should explain this in more detail during the provision of the advisory service if necessary.

2.2.2. Exploration

During the exploration, the lender must first identify the consumer (§ 11 GwG). Therefore, in practice, every advisory service begins with collecting identification data, including the consumer's first and last name, place of birth, date of birth, nationality, and residential address (§ 11 para. 4 no. 1 GwG).[50]

The lender must obtain information about the consumer's needs, personal and financial situation, and preferences and goals (§ 511 para. 2, sentence 1 BGB). The disclosure of this information functions, however, as a condition precedent. While consumers have no obligation to

[42] Weber in: Säcker et al. 2023,EGBGB Art. 247 § 18 para. 4.
[43] BT-Drs. 18/5922, 121.
[44] Weber in: Säcker et al. 2023, BGB § 511 paras. 2, 11; Jungmann in: Ellenberger and Bunte 2022, § 58 para. 231.
[45] Interview V2.
[46] Interviews V2, KV2.
[47] Peters et al. 2022, 26 et seq.
[48] Interviews KV1 and V3.
[49] Interview KV1.
[50] Interview K3.

disclose such information, where they refuse to do so, the lender will, as a result, should not make a recommendation as it lacks the basis for a well-founded recommendation.[51]

The required information can be obtained from both external sources, such as the client's self-disclosure, and internal sources, such as the client's credit history.[52] The information must be up-to-date (§ 511 para. 2 sentence 2 BGB). As long as the lender reviews and evaluates the information in the normal course of business, it is considered up-to-date. However, if the information was provided some time ago, the lender must inquire about any significant or substantial changes.[53]

Another external source is information from credit databases. This information is usually included in the creditworthiness assessment. For some banks, any negative entry or insufficient credit score is an exclusion criterion for both new and existing customers.[54] According to a consumer protection expert, consumers occasionally report that their credit score was requested at the beginning of the advisory service and that the provision of the service was subsequently terminated based on the score. However, it is not possible to determine with certainty whether this is due to the bank's business policy or the advisor's own practice.[55] Something similar occasionally occurs during credit intermediation. When the credit application is submitted from the credit intermediary to the bank, some banks undertake an intermediate step in which a query is made with the credit databases. In the case of a negative entry, the application is not processed any further.[56]

Above all, the lender must obtain information about the credit needs of the consumer. This information includes, inter alia, the loan amount required, the purpose of the loan, and the consumer's equity capital.[57] When determining the appropriate loan amount, care must be taken to ensure that the consumer is neither exposed to the risk of over-indebtedness nor will soon require another loan.[58] The amount of equity capital, which plays a crucial role in a mortgage loan, also includes the consumer's Riester-type building savings. Consumers may be able to mobilize all or part of their Riester building savings to build their equity capital. To do this, the savings would have to be "transferred". However, the term "termination" instead of "transfer" is sometimes used in advisory services, which prompts consumers to terminate their Riester-type building savings contracts. This, however, results in a loss of subsidies.[59] For this reason, it is important that the advice provided uses the correct terminology.

In contrast to earmarked mortgage and development loans, the purpose of the loan is not regularly queried in consumer loans. According to consumer protection experts, this enquiry only occurs, if at all, for car and debt consolidation loans.[60] According to a banking expert, there are a few banks in practice that also base their grants of consumer credit on the "depreciation and amortization" (AfA) criterion, which originates from the corporate lending sector. This criterion asks what the capital provided by the loan will be used for (i.e., whether it is for investment or consumption purposes), which plays a particularly significant role in determining the duration of

[51] Buck-Heeb and Lang 2016, 320 (330 et seq.); Weber in: Säcker et al. 2023, BGB § 511 para.16.
[52] Weber in: Säcker et al. 2023, BGB § 511 para.17.
[53] BT-Drs. 18/5922, 106.
[54] Roggemann et al. 2024, 42 et seq., 62 et seq.
[55] Interview V1.
[56] Interview KV2.
[57] Weber in: Säcker et al. 2023, BGB § 511 para. 18; Roth in: Langenbucher 2022, BGB § 511 para. 16.
[58] Interview K3.
[59] Interview V3.
[60] Interviews V1, V4.

the loan. For example, if the duration of a consumer loan taken out to finance a wedding is 20 years, this would not be in the consumer's best interest. There is no method to verify whether the consumer is actually using the capital for the purpose stated in the advisory service. Nevertheless, the purpose of the loan can be queried and incorporated into the design of the recommended credit agreement.[61]

In addition, the lender is to inquire about the consumer's preferences and goals. These relate, for example, to the duration of the loan, the fixed interest rate period, special repayment rights, flexibility in repayment (e.g., the ability to defer payments or adjust monthly installments),[62] and, in the case of a mortgage loan, whether the client intends to purchase the property for personal use or as an investment.[63]

Another essential component of the exploration is determining the personal and financial situation of the consumer. Depending on the type of loan and the need, this includes the consumer's income and assets, revenues and expenses (such as existing debts or maintenance obligations), marital status, information on employment, and retirement age. For long-term loans, the family development and expected income development must also be taken into account.[64] In principle, this information is also required for the creditworthiness assessment under § 505a BGB.[65] In software applications that combine credit advice and the granting of consumer credit, this data is collected in a manner designed to create a logical consistent picture. If, for example, the consumer states that they do not own real estate, the system expects an indication of rent as an expense, or an explanation as to why the expenses do not include rent. Depending on the explanation, e.g., the person lives with their partner free of charge, either a lump sum figure is included or it is ensured that the situation is permanent.[66]

Lump sum figures are also regularly used during the exploration. According to expert interviews, these lump sum figures cover, in particular, general living expenses. However, if the consumer has extraordinary expenses, such as expensive school fees for children, these will also be queried during the exploration.[67] Consumer protection agencies rightly point out that people have different lifestyles—some very sparing, some very extravagant. For this reason, it is desirable to inquire about actual living expenses, both for credit advice and for a creditworthiness assessment.[68]

During the exploration, the information necessary for a well-founded credit recommendation must be obtained.[69] Necessity is understood not only in the context of consumer credit law but also in the context of data protection law. According to the GDPR, data processing is lawful, inter alia, if it is necessary for the performance of a contract or for the implementation of pre-

[61] Interview K4. However, this must be distinguished from an assessment of the purpose of the loan. Exploration refers solely to the financing of the project. The lender may neither examine the project's viability nor include it in its recommendation (see Weber in: Säcker et al. 2023, BGB § 511 para. 28; Jungmann in: Ellenberger and Bunte 2022, § 58 para. 235).
[62] In practice, a large proportion of consumers make use of these options, thus preventing payment defaults and the associated negative consequences; Interview K2.
[63] Weber in: Säcker et al. 2023, BGB § 511 para. 18; Jungmann in: Ellenberger and Bunte 2022, § 58 para. 234; Roth in: Langenbucher et al. 2020 BGB § 511 para. 19.
[64] Interviews V1, V3, KV2.
[65] Weber in: Säcker et al. 2023, BGB § 511 para. 19.
[66] Interview K3.
[67] Interview K3.
[68] Interviews V1, V3.
[69] BT-Drs. 18/5922, 106.

contractual measures (art. 6 para. 1 lit. b GDPR). Additional personal information, e.g., regarding private matters or intimate spheres, is not relevant for the provision of the advisory service.[70]

An overview of the bank account is not necessary for the provision of the advisory service or for the creditworthiness assessment. Under data protection law, access to account information can be granted only with the consent of the account holder (art. 6 para. 1 lit. a GDPR). Therefore, an account overview should always be an option alongside other disclosure methods.[71] In practice, the account overview is regularly an option in the software applications used for credit advice and lending.[72] The consumers can provide the advisor with the information required for the exploration or enter it themselves into the system.

To ensure that consent is truly voluntary, consumers should be informed before obtaining their consent about the specific data that will be obtained from the account overview. This is because data from account transactions discloses not only information about employment or tenancy relationships but also personal information about one's lifestyle. Sometimes the transactions even show special categories of personal data (art. 9 para. 1 GDPR),[73] such as health data or union membership. It is not permitted to process this data for the purpose of creditworthiness assessments or credit approval (art. 18 para. 3 sentence 3 CCD2).[74] Therefore, it is recommended that a technical filter be built into the digital systems used for credit advice and lending, which prevents access to sensitive data within the meaning of art. 9 para. 1 GDPR.[75]

In the final step of the exploration, the lender must determine the consumer's advice needs. For this purpose, it must primarily use the information already obtained regarding the consumer's credit needs, preferences and goals, as well as their personal and financial situation. When determining the consumer's advice needs, the lender may assume an average consumer,[76] as long as no increased need for advice arises due to follow-up questions or other indications.[77] It is, therefore, necessary to determine the actual advisory needs of the consumer and to tailor the advisory process accordingly.[78] Consequently, the lender must also provide advice that meets the needs of less informed, less attentive, or less finance savvy consumers.

---

[70] Jungmann in: Ellenberger and Bunte 2022 § 58 para. 235.
[71] For more information, Damar-Blanken et al. 2024, 45 et seq.
[72] Interview K3.
[73] For more information, Damar-Blanken et al. 2024, 45 et seq.
[74] For more information, Damar-Blanken et al. 2024, 40 et seq.
[75] For more information, Damar-Blanken et al. 2024, 49.
[76] The CJEU defines the average consumer as a consumer "who is reasonably well informed and reasonably observant and circumspect", see Judgment of 30 April 2014 – C-26/13 (*Kásler*), para. 74; Judgment of 20 September 2017 – C-186/16 (*Andriciuc*), para. 47, 51; Judgment of 20 September 2018 – C-51/17 (*OTP Bank*), para. 27, 78; Judgment of 5 June 2019 – C-38/17 (*GT*), para. 34, 45; Judgment of 18 November 2021 – C-212/20 (*A SA*), para. 42-43, 50, 55. Nevertheless, regard must be given to the particular circumstances of the case as well, see Judgment of 30 April 2014 – C-26/13 (*Kásler*), para. 40; Judgment of 21 March 2013 – C-92/11 (*RWE Vertrieb*), para. 55; Judgment of 23 April 2015 – C-96/14 (*Van Hove*), para. 48. For more information and for criticism of the concept with regard to vulnerable consumers, see Esposito and Grochowski 2022, 8 et seq.; see also Finance Watch 2025, 32.
[77] BT-Drs. 18/5922, 106; BGH, Judgment of 20 February 2025 – I ZR 122/23, NJW 2025, 1200 (para. 17).
[78] In this respect, the professional qualifications of the consumer, such as being the employee of a bank, are irrelevant. For instance, in its *mBank* decision, the CJEU concluded that the consumer's also being an employee of the bank – that is, a knowledgeable consumer who, due to her training and professional experience, had knowledge of the essential features and risks associated with the credit agreement – was irrelevant for the purpose of ensuring transparency regarding the contractual clauses. See CJEU, Judgment of 21 September 2023 – C-139/22 (*mBank*), para. 61 et seq. For financial advice, see BGH, Judgment of 19 December 2017 – XI ZR 152/17, NJW 2018, 848 (para. 46 et seq.).

For software applications that combine credit advice and application for consumer credit, the data protection consent declarations are already provided after the income and expenditure calculation. Among other disclosures, they include information regarding the query with the credit databases. This query is then carried out, and details of existing credit debts, such as the amount of outstanding debt, are listed and adjusted if necessary.[79] When listing existing credit debts, consumers are made aware of different types of credits so that small loans and zero-percent financing are also incorporated.[80]

2.2.3. Assessment

After the exploration, the lender must review loan agreements, at least from its product range, to determine their suitability for the credit needs of the consumer. In practice, the following basic product alternatives exist for mortgage credit agreements: annuity loans, bullet loans coupled with a capital-forming life insurance policy or a building savings contract, and building savings loans. As is apparent at first glance, these alternatives represent different product structures. In contrast, the different consumer credit products regularly relate to the purpose of the credit, such as car loans, debt consolidation loans, consumer loans for real estate owners, and general consumer credit. Nevertheless, there are also different product structures in the consumer credit sector, such as framework credit and overdraft facilities.

The lender must therefore determine which credit products (at least) from its product range meet the credit needs of the consumer. However, the problem here is that many banks have significantly streamlined their products due to administrative costs or pricing criteria.[81] Nevertheless, lenders are not obligated to include products from other lenders in the assessment unless they have agreed to use products from other providers as stated in the pre-contractual information.[82] Nonetheless, the lender must always include in the advisory service public funding options (from the *Kreditanstalt für Wiederaufbau* and the German federal states) that correspond to the consumer's credit needs.[83]

The product range of cooperative banks typically consists of their own credit products and those of partner banks. Since cooperative banks are networked across regions, suitable offers from other cooperative banks are also included in the advisory service. Should the consumer choose the offer of another cooperative bank or a partner bank, the advising cooperative bank acts as an intermediary. However, since a credit decision from another cooperative bank can take up to a week, many consumers prefer the consumer credit offer of a partner bank, as the digital application process and the immediate credit decision offer the speed that is a decisive criterion for many consumers.[84]

The assessment must be based on a sufficient number of potential credit contracts. § 511 para. 2 sentence 2 BGB, just like art. 22 para. 3 lit. b MCD (and art. 16 para. 3 lit. c CCD2), explicitly refers to credit contracts and not to credit products. Even if lenders offer only a single credit product, e.g., annuity loans, they can consider contracts with different contractual terms. The number of credit agreements considered is sufficient only then if the lender adequately covers the

[79] Interview K3.
[80] Interview K3.
[81] Interviews V2, KV2, K4.
[82] Weber in: Säcker et al. 2023, § 511 para. 22; Jungmann in: Ellenberger and Bunte 2022, § 58 para. 239.
[83] Weber in: Säcker et al. 2023, § 511 para. 23; Buck-Heeb 2015, 177 (185); cf. OLG Stuttgart, Judgment of 5 April 2000 – 9 U 203/99, BeckRS 2000, 30105704.
[84] Interview K4.

different needs of the consumer.[85] Consequently, lenders can meet this legal standard by considering different contractual terms that correspond to the needs and personal and financial situation of the consumer. An example would be an annuity loan presented with different potential repayment rates, which would allow consideration of different monthly installments and different periods of loan duration. However, according to interviews with consumer protection experts, banks typically offer loans featuring low repayment rates—different repayment options are not explained to consumers at all.[86] The presented loans have, therefore, longer terms, which result in higher profits for the banks due to the higher interest burden on consumers. In contrast, some banks operate with minimum repayment structures for certain credit products, such as a modernization loan. From the bank's perspective, a modernization loan with a term of 40 years is of no help to consumers, as the property is likely to require further modernization in 20 years.[87] Since credit advice must be provided in the best interest of the consumer, it is advisable to present different scenarios with different repayment rates to the consumer.[88]

Furthermore, the assessment must be based on the risks that the consumer is expected to face during the term of the loan agreement (§ 511 para. 2 sentence 2 BGB). The lender is obligated to determine the specific risk factors of the consumer and to weigh them overall.[89] Therefore, the lender must examine the specific risks that each individual credit product entails for the consumer during the respective term of the agreement.[90] These include both product-specific risks, such as changes in the nominal interest rate, alternating fixed and variable interest rates, changes in exchange rates for foreign currency loans, as well as property-specific risks for mortgage loans,[91] and finally also personal risks that could result in a change in the financial capacity of the consumer, for example expiration of a fixed-term employment contract, decisions in respect of family planning, or retirement.[92] Last but not least, general life risks such as the risk of unemployment, divorce/separation, and statistical life expectancy must be taken into account. When considering personal risks, it is also important to consider that a longer loan term is associated with increased general life risks. In practice, these risks are only addressed, if at all, in connection with ancillary products, such as payment protection insurance.[93]

The assessment must be conducted based on realistic assumptions regarding the risks (§ 511 para. 2 sentence 2 BGB). This gives the lender a certain degree of discretion. Both the probability of adverse events occurring and their potential consequences for the consumer's financial situation must be assessed. In the case of a significant risk of unemployment, for example, assuming a stable income throughout the entire duration of the credit would be unrealistic, at least if no additional sources of income (e.g., from rent or lease) are available.[94] In practice, financial service providers typically rely on regularly observed empirical data when quantifying risk and tend to disregard randomly occurring events.

[85] Weber in: Säcker et al. 2023, BGB § 511 para. 22.
[86] Interview V1.
[87] Interview K4.
[88] Interview V1.
[89] BT-Drs. 18/5922, 106.
[90] BT-Drs. 18/5922, 106.
[91] Interview KV2.
[92] Interview V1
[93] Interviews V1, V2 and KV1.
[94] BT-Drs. 18/5922, 106.

Specific personal risks are particularly important in the assessment. For example, if there is a current illness that entails an increased risk of care dependency and thus losing the ability to work, this must be taken into account in the assessment.[95]

2.2.4. Recommendation

Based on the assessment, the lender must recommend one or more suitable credit products to the consumer, or inform them that it cannot recommend any product (§ 511 para. 3 BGB). According to the wording of the provision, suitable "credit products" must be recommended, whereas the parliamentary reasons,[96] art. 22 para. 3 lit. d(ii) MCD (and art. 16 para. 3 lit. c CCD2), refer to "credit agreements". Based on a historical and purposive interpretation as well as an interpretation in conformity with European law, the lender must therefore recommend one or more suitable "credit agreements".

A credit agreement is considered suitable only if it takes into account the needs, preferences, and goals of the consumer and fits their financial capacity.[97] If the financial situation of the consumer does not allow them to borrow the desired amount, it is possible to recommend a loan agreement for a lower amount. According to expert interviews, this is already the practice of many lenders.[98] In any case, however, a recommendation must include alternative loan agreements (for example, based on different repayment rates). To preserve consumers' freedom of choice and decision, it is recommended to present a table comparing these alternatives.

In contrast to the situation of a creditworthiness assessment, the granting of credit is not prohibited in the event that the advisory service results in an unfavourable recommendation. Even if the lender indicates that it cannot recommend a loan agreement from its range of credit products,[99] the consumer can still apply for a loan.[100] Likewise, the consumer can apply for a loan other than the one recommended. A prohibition on granting credit arises only in the case of a negative result from a creditworthiness assessment (§ 505a para. 1 sentence 2 BGB).

The lender must provide the consumer with the recommendation or an informational statement that it cannot recommend a credit product (§ 511 para. 3 sentence 2 BGB). This obligation is intended to enable the consumer to examine the recommendation in detail and at their leisure.[101] In the case of mortgage loans, the recommendation or informational statement can be included in the pre-contractual information for the credit agreement to be concluded.[102] By contrast, the pre-contractual information to be provided pursuant to the CCD2 and the related standard form that the lender is obligated to use do not contain any information on the

[95] Weber in: Säcker et al. 2023, BGB § 511 para. 21.
[96] BT-Drs. 18/5922, 106.
[97] Weber in: Säcker et al. 2023, BGB § 511 para. 24. For example, it is not in the interests of the consumer to have the desired financing designed at the limit of the consumer's financial capacity, Interview KV1.
[98] Interview V1.
[99] According to Interview V2, such a warning, or a warning that the consumer should not take out a credit due to their financial circumstances, never occurs in practice with standard products. The warning that there is no suitable product tends to be used in peripheral areas, such as real estate annuities or senior citizen loans.
[100] Weber in: Säcker et al. 2023, BGB § 511 para. 25; Buck-Heeb 2015, 177 (184).
[101] BT-Drs. 18/5922, 107.
[102] See ESIS information sheet (Appendix 6 to art. 247 § 1 para. 2 EGBGB), no. 1: "After analyzing your needs and situation, we recommend that you take out this loan. / We do not recommend a specific loan. However, based on your answers to some of the questions, we will provide you with information about this loan so that you can make your own decision." The pre-contractual information is in practice commonly supplied contemporaneously with the conclusion of the credit agreement.

recommendation or informational statement regarding the advisory services provided.[103] For this reason, the lender must provide the consumer with the recommendation or informational statement separately in the case of consumer loans.

After the recommendation has been provided, the consumer must be given a reasonable time to review the recommendation and make a decision.[104] Analogous to § 495 para. 3 BGB regarding the seven-day reflection period for mortgage loans and § 355 para. 2 BGB regarding the fourteen-day withdrawal period, academic literature recommends a period of between seven and fourteen days.[105]

To make an informed decision, consumers need to know the reasons underlying the recommendation. However, the lender is not obliged to document the advisory process or to explain the basis for its recommendation. Even if the lender provides such documentation or explanation for internal purposes, e.g., for evidentiary purposes,[106] it is not obliged to provide it to the consumer.[107] Without the underlying explanation, an advisement stating merely the recommended credit agreement and conditions, or merely that no suitable credit agreement can be recommended, is incomprehensible to the average consumer. Therefore, without knowing the basis for the determination, the seven to fourteen-day reflection period recommended above will also be superfluous. Even if not legally required, it is necessary for consumer-oriented credit advice to explain the reason for the recommendation or conclusion that no credit agreement can be recommended as well as to provide this explanation to the consumer. Only then can the consumer make an informed decision, e. g. whether to follow the recommendation or to consider the personal or financial factors that need to be altered for credit access.[108]

In current practice, the credit application is typically submitted immediately following the recommendation. In this respect, there are no differences between in-person and online provision of advisory services. Since a creditworthiness assessment pursuant to § 505a BGB is to be conducted after the credit application, experts state the credit terms may change in rare cases, such as due to an incorrect valuation of the real estate to be financed or due to a mediocre credit score.[109] The creditworthiness assessment determines, among other things, the bank's risk classification for the requested credit in those cases where the bank determines the interest rates based on the credit score.[110] If the requested credit is placed in a higher risk category, the nominal interest rate increases due to the risk premium.[111] Consumer-oriented advice should therefore point out the possibility of such changes. When presenting and comparing credit agreement options in a table, the loan conditions should be listed according to alternative risk classifications so that consumers can make an informed decision as to whether any alternatives might be desirable and, if so, which.

---

[103] See arts. 10 and 11 and Annexes I and II CCD2.
[104] Jungmann in: Ellenberger and Bunte 2022, § 58 para. 242; Ellenberger and Nobbe 2023, § 511 para. 8.
[105] Jungmann in: Ellenberger and Bunte 2022, § 58 para. 242.
[106] Buck-Heeb and Lang 2016, 320 (332); Jungmann in: Ellenberger and Bunte 2022, § 58 para. 243.
[107] Weber in: Säcker et al. 2023, BGB § 511 para. 26.
[108] In practice, the explanations as to why no credit offer can be made represent a best practice example, Interviews K2 and K3.
[109] Interviews V1, V2, V4, K1 and KV2.
[110] See Daldrup and Gehrke 2003, 1 et seq., 13 et seq. Since consumer credit is a standard business for many banks, the credit conditions do not depend on the creditworthiness of the consumer at every bank, Interview V1.
[111] Interview K3.

2.2.5. Duty of disclosure

The lender has a duty to explain the disadvantages and risks as well as the special features of recommended credit agreements comprehensively, correctly, and in an understandable manner.[112] This duty of disclosure, which was developed in case law, goes beyond the obligation to consider the risks of different credit products in the advisory process. In the latter context, the lender is only obliged to include, among other things, product-specific risks in the assessment. Within the scope of the duty of disclosure, however, the lender is obliged to inform consumers about the risks inherent in the respective credit agreements, e.g., that a bullet loan coupled with a building savings contract is more expensive than an annuity loan, or that follow-up financing will be provided at a higher or lower market interest rate applicable in the future after the fixed-interest period of the current credit expires.[113]

However, according to interviews with consumer protection experts, particularly the risks of complex financing options are downplayed in practice. A bullet loan coupled with a building savings contract is a good example for this. During discussions, consumers are not made aware of the risk of underfunding or the associated risk of default.[114] A building savings contract combined with a bullet loan always includes the option to reduce or stop payments. Many consumers make use of this option when they experience financial bottlenecks. As a result, the allocation maturity is not reached on the originally planned date, but at a later date. However, this means that the building savings loan, which would otherwise be used to repay the bullet loan, cannot be used. According to the expert interviews, the balloon payment for car loans is another example.[115] Balloon payments initially provide consumers with very favorable conditions. However, a balloon loan only makes sense for those who expect income from sources other than regular income before the balloon payment is due. Otherwise, the balloon payment carries a significant risk of default. However, according to expert interviews, this is regularly not addressed in the advisory process.[116] Consumer-oriented credit advice should therefore include a comparison of different loan agreements, clearly outlining the advantages and disadvantages of each.[117]

The obligation to provide information regarding the risks of recommended credit agreements is explicitly stipulated as a result of the implementation of the CCD2 into German law. Through § 511 para. 4 BGB-new, the German legislature intends to implement art. 16 para. 5 CCD2 and art. 22 para. 5 MCD. Accordingly, lenders must warn consumers when a credit agreement potentially poses a specific risk for them, taking into account their financial situation.

Furthermore, the withholding of important information about the risks of a credit product is considered misleading and thus an unfair commercial practice under current law (§ 5a UWG). Withholding essential information is considered misleading if, under the circumstances, consumers need this information to make an informed business decision, and if its withholding is likely to

---

[112] BGH, Judgment of 18 January 2005 – XI ZR 17/04 (juris); Judgment of 19 December 2017 – XI ZR 152/17, NJW 2018, 848 (para. 34 et seq.); Buck-Heeb 2015, 177 (184); Buck-Heeb 2014, 221 (233); Weber in: Säcker et al. 2023, BGB § 511 para. 27.

[113] For more information and further examples, Buck-Heeb 2015, 177 (184 et seq.); Buck-Heeb and Lang 2016, 320 (331).

[114] Interview V3.

[115] A balloon loan is a special type of loan in which the repayment is not spread evenly over the term; instead, a larger final installment (the "balloon payment") is due at the end.

[116] Interview V4.

[117] Interview V3.

induce consumers to make a business decision they would not otherwise have made (§ 5a para. 1 UWG).

Last but not least, it is important to refrain from trivializing the general risks associated with credit agreements. In a case decided by the BGH, borrowers took out a mortgage loan approximately six weeks before the notary appointment for undersigning the real estate purchase agreement. During the advisory process, they asked what would happen if the property purchase fell through. The credit intermediary reassured them: it had never encountered a canceled contract with a fixed notary appointment before, and in the event of doubts, a solution would be found. After expiration of the withdrawal period for the credit agreement, the seller of the real estate withdrew from the purchase. The borrowers declared that they no longer needed the credit. The bank subsequently charged them a non-acceptance indemnity of 35,000,- EUR. In this case, the BGH ruled that the intermediary violated its duty of disclosure by trivializing the real risk of the property purchase contract not being concluded, creating the impression that the risk was rather remote and only theoretical.[118] The intermediary was obliged to inform the borrower about the risk and ways to avoid it, such as concluding the credit agreement later or bringing forward the notary appointment.[119]

2.3. Remedies

In the event of incorrect advice, consumers can assert claims for damages. The claim for damages arises regardless of whether an advisory contract was concluded (§ 280 para. 1 BGB) or not (§§ 311 para. 2, 241 para. 2 BGB).[120] For the claim to be valid, there must be a breach of duty and damage proximately caused by this breach of duty. Furthermore, the lender must be responsible for the breach of duty (§ 276 para. 1 BGB). Lenders are usually responsible for the breach of duty, as advisors are employers or agents of a bank, and the bank must accept responsibility for their negligence (§§ 276, 278 BGB). As a rule, it is presumed that the bank is at fault (§ 280 para. 1 sentence 2 BGB).

A breach of duty occurs if the lender fails to meet the minimum standards prescribed in § 511 BGB or fails to provide the consumer with complete and correct information.[121] If, for example, the lender has failed to base the assessment on a sufficient number of potential credit agreements, or has failed to inform the consumer about the risks of the recommended financing options, or has failed to advise the consumer against taking out a loan,[122] it is in breach of its advisory obligations. If, on the other hand, the lender fulfills all obligations relating to the giving of credit advice, it is not liable. If, for example, the lender advised the consumer against taking out a loan and they applied for a credit anyway,[123] the lender will not be liable for having given incorrect advice. In this case, however, it is possible that there could have been a breach of the obligation to assess creditworthiness (§ 505d BGB) if the lender granted the credit despite having

[118] BGH, Judgment of February 20, 2025 – I ZR 122/23, NJW 2025, 1200 (para.19 et seq.).
[119] BGH, Judgment of February 20, 2025 – I ZR 122/23, NJW 2025, 1200 (para. 26).
[120] Weber in: Säcker et al. 2023, BGB § 511, para. 29; Jungmann in: Ellenberger and Bunte 2022, § 58 para. 244.
[121] Weber in: Säcker et al. 2023, BGB § 511 para. 30.
[122] Roth in: Langenbucher et al. 2020, BGB § 511 para. 27.
[123] According to interview KV2, this occasionally occurs in practice. In these cases, it is documented that the loan application is submitted against the express recommendation of the advisor and despite the explained risks of the financing. According to interview KV1, there are even extreme cases where intermediation is omitted.

recommended refraining from submitting a credit application, and if all the criteria of § 505d BGB are met.

The actual recommendation must be justifiable *ex ante*, i.e., at the time of the initial situation.[124] Provided that the recommendation was made in compliance with the minimum standards, it is justifiable *ex ante* if it appears to have been justifiable in light of the facts and information available at the time of the recommendation. Events that subsequently become known (such as an illness diagnosed only after the recommendation was made that negatively impacts the consumer's ability to work) or subsequent developments (such as reductions in nominal interest rates) are irrelevant when assessing the breach of duty. Therefore, the consumer bears the risk that a recommendation which was justifiable at the time of the initial situation subsequently turns out to be incorrect.[125]

In addition, there must be damage that was proximately caused by this breach of duty.[126] This damage could, for example, be due to the consumer incurring additional costs as a result of concluding an unsuitable credit agreement.[127] The conclusion of a credit agreement itself can also constitute damage if the lender negligently failed to advise against taking out a loan.[128] As compensation, the situation that would have existed had the damaging event not occurred must be restored (§ 249 para. 1 BGB). Therefore, in the case of incorrect advice, reimbursement of the additional costs or even the rescission of the burdensome credit agreement may be considered, thus releasing the consumer from interest, costs, and repayment.[129] An interesting example of the latter was presented in an expert interview. An elderly couple turned to their lender because they could no longer pay their monthly loan installments and had exhausted their overdraft limit. The advisor recommended that they repay the overdraft. For this purpose, the amount of the existing loan, which was already financially burdensome for the borrowers, was increased. Combined with a new payment protection insurance policy, the monthly installments subsequently became higher than the previous installment, which the couple was not able to afford anyway.[130] It is clear that this recommendation disregarded the borrowers' financial situation, resulting in the loss associated with the conclusion of the new credit agreement.

2.4. Opportunities for consumer-oriented credit advice through AI

Providing advice measured against the statutory minimum standards of § 511 BGB is very time-consuming. It requires sufficient staff with appropriate knowledge and the necessary skills in drafting, offering, intermediating, and concluding consumer credit agreements, or in providing advisory services related to these agreements (§ 18a para. 6 KWG). Furthermore, the knowledge and skills of staff must be kept up to date (§ 18a para. 6 KWG). As a result, proper advice entails increased costs. In practice, this unfortunately means that not all consumer groups receive such advice.

---

[124] Weber in: Säcker et al. 2023, BGB § 511 para. 25.
[125] Weber in: Säcker et al. 2023, BGB § 511 para. 25.
[126] On causality, see Weber in: Säcker et al. 2023, BGB § 511 para. 32.
[127] Artz in: Bülow and Artz 2019, BGB § 511 para. 8.
[128] Weber in: Säcker et al. 2023, BGB § 511 para. 31, 34; Roth in: Langenbucher et al. 2020, BGB § 511 para. 27; Buck-Heeb 2018, 705 (713).
[129] Weber in: Säcker et al. 2023, BGB § 511 para. 31, 34; Artz in: Bülow and Artz 2019, BGB § 511 para. 8; Buck-Heeb 2018, 705 (713). See also the explanatory memorandum to § 511 BGB-new BT-Drs. 21/1851, 122 et seq.
[130] Interview V4.

Furthermore, both the implementation of the fundamental principle that credit advice must be provided in the interest of the consumer as well as the effective support of consumers' autonomous decision-making go beyond the mere fulfillment of legal requirements. The points at which such consumer orientation is required in the provision of credit advisory services were explained above in Chapter 2. This includes, for example, providing general information about credit, tailoring the advice to the purpose of the loan, presenting credit agreement options in a comparative table outlining their advantages and disadvantages as well as any differences in repayment rates or potential risk premiums, explaining the reasons for the stated recommendation, and providing for a reflection period. To truly support consumers' decision-making ability, the comparison must be clear and presented in simple language.[131] According to studies, transparency and a clearly understandable presentation of products are particularly important for consumers, whereas the sheer quantity of information is less relevant.[132]

By taking out a loan, consumers receive liquidity that they can use in a variety of ways. Typical examples include financing consumer goods, financially supporting an education or training program, or covering an unexpected budget deficit, but other situations will exist as well. It is therefore crucial that consumers receive expert advice that takes into account, among other things, their needs and their personal and financial situation. Since supporting members is a fundamental principle of cooperative banks, implementing this principle through expert advice is required not only for legal reasons but also by the basic principles of cooperative banks. Over time, credit cooperatives have developed into universal banks whose financial services are also offered to non-members. A sole focus on cooperative members would therefore be insufficient. Through expert credit advice, cooperative banks can acquire customers and increase the satisfaction of their members, thus enabling long-term customer loyalty.

An AI-supported advisory tool offers significant advantages for providing consumer-oriented credit advice. In particular, the costs of expert advice can be reduced and optimized.[133] For the bank, an AI-based credit advisory tool would enable the pooling of expertise in the advisory field, the optimization of interaction structures, a standardized quality of advisory services —as emphasized in the expert interviews, the quality of advice currently depends on the individual advisor[134]—, and, as a result, a reduction of potential conflicts in retail banking.[135] Furthermore, the use of an AI tool can provide personalized advice and risk assessment. Thus, AI-supported credit advice would ease and enable low-threshold and broader access for all consumer groups to both credit advice and credit products.

The transformation of the banking landscape through digitalization has led to more intense competition. Digitalization has opened market access to new players, namely FinTechs and Neobanks.[136] These providers offer fast, cost-effective, and innovative customer-oriented solutions, thereby enhancing the customer experience. At the same time, they primarily enable low-threshold access to banking services—and at a better price-performance ratio.[137] Neobanks and FinTechs are, therefore, particularly popular among younger customers: according to a study, 46

[131] Interview V3.
[132] For more information, Hastenteufel and Kiszka 2020, 13.
[133] Cf. Schröder 2018, 1.
[134] Interviews V1 and V2.
[135] Schröder 2018, 1 et seq.
[136] Neobanks are fully licensed, digital banks that offer all traditional banking services online, whereas FinTechs are technology-driven financial companies that focus on innovatively improving specific financial processes or services, such as credit intermediation, often without their own banking license.
[137] Hastenteufel and Kiszka 2020, 4, 7.

percent of consumers who chose a Neobank as their main bank are between 18 and 34 years old.[138] Their trust in a Neobank as their main bank is based on the fact that it allows customers to make informed and independent decisions (78.6 percent), offers the most cost-effective products and services (59.4 percent), provides the best products and services (56.5 percent), and, finally, delivers the latest innovations (55.4 percent).[139] In this competitive landscape, high-quality advisory services remain one of the few differentiating factors in the competition with FinTechs and Neobanks.[140]

Digitalization has also changed customer behavior. Banking transactions are increasingly conducted independent of location, especially from home, with simplicity, ease of use, flexibility, and speed becoming increasingly important.[141] Customers expect a fast, uncomplicated, and smoothly functioning digital offering. Consequently, the quality of digital services has become the decisive factor when choosing a bank.[142] If their heightened expectations regarding the customer experience are not met, the willingness to switch banks is high.[143] From the perspective of banking institutions, high customer satisfaction and loyalty lead to long-term higher profits, which is why optimizing the customer experience and satisfaction should be regarded as a sustainable investment.[144]

In addition, AI-supported advice is more accepted among younger consumers than among older consumers.[145] 76 percent of younger consumers would seek financial advice from AI, whereas only 20 percent of older consumers agree with this statement.[146] Taking this trend into account, AI-supported credit advice will play a significantly larger role in the future. According to statistical information, the proportion of younger customers of cooperative banks remains lower than the proportion of older customers. The proportion of younger customers (20-49 years old) is 38.7 percent at *Volksbank* and 43 percent at *Sparda-Bank*. Older customers (50 and older) make up the majority of cooperative bank customers, 55.4 percent at *Volksbank* and 52.4 percent at *Sparda-Bank*.[147] In this respect, AI-supported credit advice for cooperative banks represents a future-oriented, visionary investment in expert credit advice that serves to attract younger consumers as new customers.

Both service quality and price continue to be important selection criteria for many cooperative bank customers. According to statistics, *Volksbank* customers place greater value on advice and service (55.7 percent) than the general population (49.1 percent). *Sparda-Bank* customers, by contrast, behave differently. They attach significantly less importance to advice and service (43.8 percent), but they place more emphasis on prices and fees (55.5 percent) than *Volksbank* customers (37.4 percent) or the general population (44.8 percent). To what extent this can be attributed to differences in the demographic composition of the customer bases of the two banks would require further examination. It is quite conceivable that younger customers are more willing to use external sources of financial information, which could also explain their stronger preference for FinTechs. Nevertheless, the cooperative banking sector could gain ground among young

[138] Ernst & Young 2022.
[139] Ernst & Young 2022.
[140] Hastenteufel and Kiszka 2020, 13, 19.
[141] Hastenteufel and Kiszka 2020, 7, 11.
[142] For more information, see Hastenteufel and Kiszka 2020, 11.
[143] Hastenteufel and Kiszka 2020, 4.
[144] Hastenteufel and Kiszka 2020, 10.
[145] Teambank 2024.
[146] Ibid.
[147] statista 2022b, 4; statista 2022a, 4.

people in competition with new market entrants such as FinTechs and Neobanks by offering financial guidance throughout different stages of life, thereby fostering long-term customer relationships with this segment as well. This would necessarily include a tailored advisory concept. For all customer groups, an AI-based credit advisory service should be able to offer high service quality either free of charge or at low cost. This would, among other things, contribute to improving the long-term competitiveness of cooperative banks.

When it comes to AI-supported credit advice, the key question from a consumer-oriented perspective is whether the tool should only be supportive or capable of operating independently. According to expert interviews, a supportive AI tool is preferable.[148] An advisor's knowledge of human nature is said to play an irreplaceable role in assessing the consumer's personality, and it is personal impressions that allow determinations as to whether the consumer will be able to overcome general life risks such as unemployment. Furthermore, the human advisor can act as a monitoring authority, reviewing and correcting the AI tool's outputs in terms of their usefulness—especially in complex, long-term mortgage loans. This is seen as essential, especially in the initial phase of using such a tool. It should not be overlooked that consumers who visit a branch for advice want a human interlocutor. However, there are many reasons to prefer an AI tool that can operate independently. Some consumers, for example, prefer digital processes. This would allow them to access advice flexibly, both in terms of time and location.[149] This would significantly improve access to credit advice.[150] Credit advisory services are also feeling the impact of the skilled labor shortage. Accordingly, the support of an AI tool could relieve the burden on qualified specialists and allow them to be deployed in the right places.[151]

For low-threshold access to consumer-oriented credit advice, a standalone AI tool for credit advice is preferable. However, such an AI tool must not completely replace human involvement. Consumers' freedom of choice must be preserved.[152] They should be able to choose between AI-supported and human advice. The transparency of the AI tool's recommendations must also be ensured. Consumers and human advisors—as a monitoring body—should be able to understand the AI tool's recommendations. This can be achieved, in particular, by providing a justification for any recommendation made. Last but not least, consumers should be able to ask questions[153]—both during the exploration phase and after the recommendation, e.g., when the AI tool's exploration questions or the justification for the recommendation are unclear to the consumer.[154] Human support must also be available at this point—be it in-person at the branch, via the customer hotline, or via a chat window on the website. This would primarily serve to fulfill legal obligations. Both art. 22 para. 3 GDPR and art. 18 para. 8 CCD2[155] provide that consumers can request human intervention or express their point of view in the case of automated processing of personal data. Furthermore, the availability of a personal contact person would align with customer expectations, as customers like to have the option of getting in direct contact with the bank when needed.[156]

---

[148] Interviews K3, K4, KV1, KV2, V1, V2, V3, and V4.
[149] Interview KV1.
[150] Interview V4, see also Hastenteufel and Kiszka 2020, 12 et seq.
[151] Interview KV2.
[152] Interview V4.
[153] Interview V4.
[154] Interview V1.
[155] Since an AI-supported advisory tool will most likely be combined with the credit application process in practice, Art. 18 para. 8 of the CCD2 must also be observed. This provision applies if the creditworthiness assessment involves the automated processing of personal data.
[156] For more information, see Hastenteufel and Kiszka 2020, 17.

However, AI systems pose significant risks with regard to the protection of personal data, discrimination, and undue influence on behavior. It should be observed that these risks would exist with an AI tool for credit advice and lending, regardless of how the AI system interacts with consumers, e.g., via avatars or as a chatbot. The following chapter first discusses European regulations in terms of AI. Associated risks and risk mitigation measures are then explained in the subsequent chapters.

3. Artificial Intelligence Law

The AI Act, which applies to all AI systems placed on the market in the EU, entered into force on 2 August 2024. However, the regulation of AI systems is taking effect only gradually (art. 113 AI Act). The first milestone, on 2 February 2025, introduced a ban on certain AI systems and set out an obligation to promote AI literacy. On 2 August 2025, specific rules for general purpose AI ("GPAI") models came into effect, with providers of existing systems given until 2 August 2027 to meet these requirements (art. 111 para. 3 AI Act). The rules for high-risk AI systems will apply from 2 August 2026, gradually expanding the scope of compliance. The AI Act will be fully effective by 2 August 2027.

3.1. Definition

The term "artificial intelligence" is defined in art. 3 para. 1 AI Act. Accordingly, an AI system is

> *"a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers from the input it receives how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments."*

A characteristic of an AI system is its capacity to infer, which goes beyond basic data processing by enabling learning, reasoning, or modeling (recital 12 AI Act). The AI Act does not explicitly set a threshold distinguishing AI systems from basic data processing. However, the European Commission's non-binding guidelines[157] aim to help providers and stakeholders determine whether a software system qualifies as an AI system, taking a restrictive view. According to the European Commission's guideline:

> *"Systems used to improve mathematical optimization or to accelerate and approximate traditional, well-established optimization methods, such as linear or logistic regression methods, fall outside the scope of the AI system definition. This is because, while these models have the capacity to infer, they do not transcend 'basic data processing'"* [158]

According to the European Commission's guidelines, a system can be considered basic data processing if it has been used in a widespread and consolidated manner for many years. However, this reasoning is questionable, as the length of time a system has been in use should not be relevant to its classification under the AI Act.[159] Indeed, advanced techniques such as deep

[157] European Commission, Communication from the Commission: Commission Guidelines on the Definition of an Artificial Intelligence System Established by Regulation (EU) 2024/1689 (AI Act).
[158] European Commission, Communication from the Commission: Commission Guidelines on the Definition of an Artificial Intelligence System Established by Regulation (EU) 2024/1689 (AI Act), para. 42. For the view that the SCHUFA system is unlikely to be classified as falling within the definition of an AI system under the AI Act, see, also, Laux and Ruschemeier 2025, 15.
[159] Irish Council for Civil Liberties 2025.

learning have been around for years.[160] The length of time an AI system has been in use does not automatically determine whether it will be classified as basic data processing. Therefore, the duration of an AI system's deployment should be irrelevant. From the European Commission's standpoint, if a creditworthiness assessment system relies exclusively on models such as logistic regression, it should not be classified as an AI system.[161] Also, according to expert interviews, logistic regression is not classified as an AI system in the sense of the AI Act.[162] Nonetheless, it should be emphasized that the European Commission's position is non-binding, and the definition of AI systems under the AI Act remains broad. As a result, the guideline do not provide clarity but rather create further ambiguity regarding the scope of the AI Act.[163] It therefore remains to be seen whether case law will follow the interpretation of the European Commission.

However, the German Federal Financial Authority (BaFin) has acknowledged logistic regression as a method of machine learning and, in this capacity, as an artificial intelligence system within the context of credit assessment.[164] In practice, logistic regression remains the predominant technique for automated decision-making in lending. The training data sets employed typically consist of historical loan applications and their respective outcomes, thereby embedding previous lending practices into subsequent decision-making processes. These models are not static but can be continuously readjusted by integrating newly available data, ensuring adaptability over time. Nevertheless, more sophisticated AI approaches have emerged that enable systems to autonomously generate decision rules by detecting patterns and correlations within training data sets, thereby going beyond the logistic regression.[165] As explained above, the legal situation in this regard is not yet clear. Until a final court ruling is issued, lenders are thus well advised to consider logistic regression models as AI systems to ensure compliance with regulatory requirements and mitigate the associated risks.[166] Accordingly, systems for creditworthiness assessment and credit advisory services based on logistic regression should be considered AI systems within the meaning of art. 3 para. 1 AI Act until a final clarification is provided.

Moreover, the AI Act does not provide a definition of an AI model. However, according to recital 97 of the AI Act:

> *"Although AI models are essential components of AI systems, they do not constitute AI systems on their own. AI models require the addition of further components, such as, for example, a user interface, to become AI systems. AI models are typically integrated into and form part of AI systems."*

In the context of this project report, the term AI model refers to the underlying component that enables an AI system to achieve its intended purpose once integrated into a specifically broader framework,[167] meaning that an AI system for credit advice and lending services incorporates an AI model trained on personal data to generate responses to consumer advice request.

---

[160] Hacker and Eber 2025, 5.
[161] Hacker and Eber 2025, 5 et seq. For more information on logistic regression see Feldkamp et al. 2024, 60 (64 et seq).
[162] Interviews K1 and K2. See also Züger et al. 2025a, 12; Züger et al. 2025b, 1262; Hansen 2025; Engelhardt and Teuber 2025, 218 (225).
[163] Irish Council for Civil Liberties 2025.
[164] BaFin 2023.
[165] BaFin 2023.
[166] Hacker and Eber 2025, 5 et seq.; Hacker 2024, 27; cf. Hansen 2025.
[167] See also EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 22.

3.2. Risk-based approach of the AI Act

The AI Act introduces a risk-based approach and classifies AI systems into four categories: AI systems (i) with an unacceptable risk, (ii) with high risk, (iii) with a transparency risk, and (iv) with low or no risk. Beyond this risk-based framework, foundation models are regulated separately as "general-purpose" AI systems.[168]

The AI Act classifies AI systems for creditworthiness assessment and credit scoring as high-risk AI systems (art. 6 para. 5 in conjunction with Annex III no. 5 lit. b AI Act). AI systems that are used for the purposes of

"access to and enjoyment of essential private services and essential public services and benefits" [including those] "intended to be used to evaluate the creditworthiness of natural persons or establish their credit score"

qualify as high-risk systems.[169] In this way, the AI Act underlines, on the one hand, the fundamental character of credit agreements for consumers, and on the other, the significant impact of creditworthiness assessments and credit scoring on access; also stressed is the need for corresponding protective measures.

In the area of consumer loans, software applications that combine credit advice with lending are widely used. In such cases, the system moves from credit advice to the loan application and then directly to the creditworthiness assessment and thus to the loan decision.[170] These steps are often not clearly separated from one another. If an AI system for credit advice is designed in combination with credit lending, the entire system must be considered a high-risk AI system since it conducts a creditworthiness assessment and the credit scores of credit databases are (at a minimum) incorporated into the assessment. However, if no such linkage exists, a standalone AI tool for credit advice is generally not classified as a high-risk system.

Human involvement in decision-making does not automatically change that classification. Pursuant to art. 6 para. 3 AI Act, the credit scoring and creditworthiness assessments listed in Annex III are presumed to be high-risk unless it can be demonstrated that they do not pose a significant risk to health, safety, or fundamental rights—e.g., where the AI system does not materially influence the outcome of the decision-making process. In such cases, genuine and meaningful human oversight may reduce the system's influence to such an extent that the high-risk threshold is not met and the obligations applicable to high-risk systems (such as the human oversight requirement under art. 14 AI Act) would not apply.[171]

However, AI systems for creditworthiness assessment and credit scoring are always classified as high-risk if they perform a profiling of natural persons (art. 6 para. 3 subpara. 3 AI Act). Profiling is deemed in this context as posing a significant risk to fundamental rights. Profiling means any automated processing of personal data intended to evaluate certain personal aspects of a natural person, in particular to analyze or predict the person's economic situation, reliability, behavior, health, or preferences (art. 4 para. 4 GDPR). The use of the term *"evaluate"* makes clear that profiling inherently involves some form of assessment or judgment about the individual.[172]

---

[168] Hacker and Eber 2025, 4.
[169] For a view on "essential services" see Langenbucher 2022, 368.
[170] Interviews K2, K3, and K4.
[171] Radtke 2025, 99.
[172] Article 29 Data Protection Working Party, Guidelines on Automated individual decision-making and Profiling, 7.

Credit scoring and creditworthiness assessments clearly fall within this definition, as they rely on an automated analysis of personal and financial data to predict an individual's creditworthiness and repayment behavior.[173] As a result, AI systems used for credit scoring or creditworthiness assessments that involve profiling will always fall within the high-risk category if they meet the AI system definition, regardless of the degree of human oversight.[174]

Last but not least, art. 95 para. 1 AI Act must be considered. According to this provision, low- or no-risk AI systems are generally subject to codes of conduct,[175] which for their part should be guided by the requirements for high-risk AI systems. In this respect, the provisions on high-risk AI systems represent a model of good governance. It is, for this reason, assumed that the review of liability issues by national courts will be guided by the obligations regarding high-risk AI systems.[176] It is therefore advisable that low- or no-risk systems meet the requirements for high-risk AI systems, particularly given the legal uncertainty as to whether logistic regression models are covered by the definition of AI systems in the AI Act.

3.3. Obligations under the AI Act

The scope of application of the AI Act is broad (art. 2 AI Act). The AI Act applies to providers and deployers within the European Union, as well as to those established outside the EU when their systems generate outputs used in the Union or affect persons or activities inside it. Such extraterritorial reach is intended to ensure that people in the EU are protected from AI-related risks, regardless of where a system is developed or operated. Once an AI system falls within this scope, the obligations and safeguards of the AI Act take effect.

The roles related to developing and deploying an AI system can vary. The AI Act distinguishes between providers and operators in this regard. If a company serves as both the provider and deployer of the AI system as relating to a creditworthiness assessment, it must comply with the requirements applicable to both roles. A "provider" is defined as any "natural or legal person, [...] that develops an AI system [...] or that has an AI system developed and places it on the market or puts the AI system into service under its own name or trademark (art. 3 no. 3 AI Act). A lender may develop an AI system entirely from scratch or, alternatively, integrate an existing AI model developed by a third party into its own system, potentially adapting it by, for example, connecting the system to its own database or retraining it with its own data. Where a lender incorporates a fully developed AI model—as made by a third party—into its own system or modifies it for its particular purposes, it may likewise fall within the definition of a provider. It is, however, essential to distinguish between modifications that amount to the (further) development of an AI system, thereby triggering the obligations associated with the provider role (art. 25 para. 1 AI Act), and those that merely constitute an individualized use of the system, which fall within the scope of the deployer

[173] See Article 29 Data Protection Working Party, Guidelines on Automated individual decision-making and Profiling, 8.

[174] However, the European Central Bank once recommended that AI systems employing linear or logistic regression or decision trees should not be considered high-risk when used under human supervision to evaluate individual creditworthiness – provided their impact on the assessment is minimal; see European Central Bank, Opinion of the European Central Bank of 29 December 2021 on a proposal for a regulation laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), para. 3.2.

[175] According to art. 95 para. 3 AI Act, these can be drawn up by individual AI system providers or operators or by organizations representing them, or by both, including with the involvement of any interested stakeholders and their representative organizations, including civil society organizations and academia.

[176] Philipp Hacker, Lecture "AI Liability – What Do Business Need to Know" on February 27, 2025.

definition. The decisive factor is therefore the nature and extent of the modification. Depending on this assessment, a lender may be classified either as a provider or as a deployer.[177]

Art. 25 para. 1 AI Act specifies the circumstances in which a deployer is deemed to assume the role of a provider: (i) where it places its name or trademark on a high-risk AI system in a manner that implies provider responsibility; (ii) where it makes a substantial modification to an AI system already placed on the market or put into service, with the result that it remains a high-risk system; or (iii) where it modifies the intended purpose of an AI system—including a general-purpose AI system not previously classified as high-risk—so that the system becomes high-risk. In the context of lenders, this means that where the modifications qualify as "substantial" within the meaning of the AI Act, or where one of the other two conditions is fulfilled, the lender's role will shift from deployer to provider.

The AI Act defines a "deployer" as "natural or legal person, [...] using an AI system under its authority except where the AI system is used in the course of a personal non-professional activity" (art. 3 no. 4 AI Act). Accordingly, lenders that acquire a pre-developed AI system for creditworthiness assessment and use it without further adjustments or integration into their own systems qualify as deployers under art. 3 no. 4 AI Act.[178] For example, a lender might acquire an already developed AI system for credit advice and use it in consumer business (without adjustments, etc.). In this case, the company that developed the AI system would be the provider, and the lender that merely uses the system would be the deployer. According to expert interviews, local cooperative banks use software applications that are centrally developed and made available.[179] This cooperation is likely to continue in the development of AI systems. In such a case, the central cooperative bank would be the provider, and the local cooperative bank using the AI system would be the deployer. In any case, a lender can be both provider and deployer if it develops the system itself and also uses it.

When a provider develops a high-risk AI system for creditworthiness assessment, it is subject to significant obligations under the AI Act. Most importantly, the system must be tested before its deployment to ensure that it carefully assesses creditworthiness and meets all risk management obligations (art. 9 para. 6 AI Act). This requires the creation and documentation of a comprehensive risk management framework that identifies, assesses, and evaluates potential risks to individuals' financial well-being, fairness, transparency, and fundamental rights. The framework must also provide for continuous monitoring after deployment and for the implementation of appropriate mitigation measures. Particular attention should be given where vulnerable groups (such as financially inexperienced users or consumers with limited financial literacy) may be affected by the system's decisions.

Furthermore, the provider must comply with the detailed data governance requirements for high-risk AI systems (art. 10 AI Act). Accordingly, training-, validation-, and testing data sets[180] must be relevant, sufficiently representative, closely aligned with the purpose of the credit

[177] See Füllsack in: Schefzig and Kilian 2025, KI-VO Art. 3 paras. 87, 87.1, 88, 94.
[178] See Füllsack in: Schefzig and Kilian 2025, KI-VO Art. 3 para. 125.
[179] Interview K4.
[180] Training data means "data used for training an AI system through fitting its learnable parameters" (art. 3 no. 29 AI Act); validation data means "data used for providing an evaluation of the trained AI system and for tuning its non-learnable parameters and its learning process in order, inter alia, to prevent underfitting or overfitting" (art. 3 no. 30 AI Act); testing data means "data used for providing an independent evaluation of the AI system in order to confirm the expected performance of that system before its placing on the market or putting into service" (Art. 3 no. 32 AI Act); and a validation data set means "a separate data set or part of the training data set, either as a fixed or variable split" (art. 3 no. 31 AI Act).

advisory services and/or creditworthiness assessment, and as error-free and complete as possible (art. 10 para. 3 AI Act, art. 174 lit. b and c CRR).[181] The AI Act further requires providers to proactively identify biases in these data sets and to implement ongoing mitigation strategies.[182]

Art. 11 AI Act requires providers to prepare comprehensive technical documentation before placing an AI system on the market and to update this documentation whenever material changes occur. Small and medium-sized enterprises (SMEs)[183] are permitted to use a simplified documentation template provided by the European Commission.

The AI Act sets out other comprehensive obligations for providers of high-risk AI systems in order to ensure transparency, accountability, and ongoing compliance throughout the system's lifecycle. Providers must maintain detailed, automatically generated logs to guarantee traceability and auditability (art. 12). Where the deployer differs from the developer, providers must ensure transparency by giving clear, plain-language instructions regarding the system's credit assessment capabilities, accuracy limits, potential performance issues, and intended use (art. 13 AI Act). AI systems must be designed for effective human oversight (art. 14 AI Act);[184] they must be accurate, robust, and secure from cybersecurity threats (art. 15 AI Act). They must be operated under a quality management system to ensure ongoing compliance (art. 17 AI Act). Providers must also conduct a conformity assessment (arts. 43- 48 AI Act) and implement post-market monitoring in order to detect and report serious incidents or malfunctions and to take corrective action (art. 72 AI Act).

Among the requirements for high-risk AI systems, transparency and human oversight are particularly important to prevent all risks. According to art. 13 para. 1 sentence 1 AI Act, the operation of a high-risk AI system must be sufficiently transparent to enable operators to appropriately interpret and use the system's outputs. This also includes reasonably foreseeable misuses that could, among other things, pose a risk to fundamental rights (art. 13 para. 3 lit. b(iii) AI Act). Therefore, an AI based tool for credit advisory services and lending must incorporate mechanisms to ensure human oversight within the meaning of art. 14 AI Act and to facilitate interpretation of the outputs of high-risk AI systems by the operators (art. 13 para. 3 lit. d AI Act). The objective is to help the data subjects make informed decisions as to whether, when, and how to intervene in order to avoid negative consequences or risks, or to stop the system if it is not functioning as intended (recital 73).[185] In this regard, BaFin recommends choosing, where possible, simpler AI models in order to promote transparency, such as by preferring logistic regression over black-box methods.[186]

Furthermore, high-risk AI systems must be designed in such a way that they can be effectively overseen by natural persons—including with suitable human-machine interface tools (art. 14 para. 1 AI Act). Therefore, an AI tool for credit advice and credit lending requires mechanisms that enable human oversight. Human oversight should not be understood as human review

---

[181] Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms, OJ 2013 L 176/1 (hereinafter "CRR").
[182] For examples and more information, see below 4.2 Discrimination risks.
[183] These are defined according to the Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises, OJ L 124/36 of 2003. For a list of all cooperative banks sorted by balance sheet total (as of the end of 2024), see Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e. V. 2024.
[184] Finance Watch 2025, 18.
[185] However, the data subjects have no right to access this information, see Legner 2024, 426 (429).
[186] BaFin 2024; see also BaFin 2021, 9; Scheer 2019, 37 et seq.

of every decision made by the AI system.[187] This oversight can include various governance and control mechanisms, e.g., ensuring the interactive involvement of a human (*human in the loop*), review and control by a human (*human on the loop*), or overall control by a human (*human in command*).[188] As explained above, the expert interviews indicated a preference for an AI tool that serves in a supportive capacity for credit advisory and lending, on the basis that a human operator should be able to review the system's operation and its results in light of all relevant risks (i.e., *human on the loop*).[189] However, this is not required by the AI Act—interactive human involvement is also sufficient. Nevertheless, it should be taken into account that the more limited human oversight of an AI system is, the more intensive the prior testing must be and the stricter the governance and control mechanisms must be.[190]

Beyond the specific requirements applicable to high-risk systems, providers of AI-based credit advice and lending AI tools are also subject to the transparency obligations laid down in art. 50 AI Act. Accordingly, providers must inform consumers when they are interacting with an AI system. In practice, this means that consumers must be clearly notified that the provided advice originates from an AI tool rather than from a human advisor. Such disclosure is essential to prevent misunderstanding and to enable consumers to make informed decisions about whether they would like to interact with the AI-tool—and, if yes, whether to rely on the system's outputs.

Under the AI Act, not only providers but also deployers of high-risk AI systems have specific duties to ensure safe and compliant use. For instance, they must operate such systems strictly in line with the provider's instructions (art. 26 para. 1 AI Act) and ensure that human oversight is entrusted to competent, trained individuals (art. 26 para. 2 AI Act). Where deployers control input data, they are responsible for ensuring that it is relevant, sufficiently representative, and appropriate for the system's intended purpose (art. 26 para. 4 AI Act). In addition, deployers are obliged to continuously monitor system performance and promptly notify the provider and competent authorities of any serious incidents or risks, suspending use where necessary (art. 26 para. 5 AI Act). In certain high-risk areas, such as credit scoring and creditworthiness assessments, they must also conduct a fundamental rights impact assessment prior to first use, updating it as needed (art. 27 AI Act). Consequently, it is advisable to repeat the fundamental rights impact assessment on a regular basis.[191] According to the expert interviews, AI systems in banking practice are overseen through real-time monitoring. Changes in outputs are analyzed and corrected if necessary.[192]

The obligation of the AI Act must be met by all providers and deployers of high-risk AI systems, irrespective of whether they are already subject to existing financial sectoral regulatory regulations. Accordingly, lenders using high-risk AI systems (such as credit scoring or creditworthiness assessment tools) must comply with the AI Act in addition to their existing obligations. However, they may integrate the AI Act's requirements concerning testing, reporting, and documentation into procedures already harmonized at the European level in order to ensure compliance with the AI Act (recital 64). Furthermore, regulated financial institutions can benefit from certain simplified compliance measures. For example, credit institutions can fulfill the requirements relating to quality management systems (art. 17 para. 4 in conjunction with art. 40 para. 1

[187] Buchner in: Schefzig and Kilian 2025, KI-VO Art. 14 para. 34.
[188] Hochrangige Expertengruppe für Künstliche Intelligenz 2019, para. 65; for more information, Buchner in: Schefzig and Kilian 2025, KI-VO Art. 14 para. 34 et seq.; see also art. 174 lit. e CRR.
[189] See above 2.4 Opportunities for consumer-oriented credit advice through AI.
[190] Hochrangige Expertengruppe für Künstliche Intelligenz 2019, para. 65. See also Weltersbach and Aslan 2025, 49 (56).
[191] Scheer 2019, 37 (No. 3).
[192] Interviews K1 and K2.

AI Act) by relying on existing internal governance rules established under EU financial services legislation.[193] Similarly, the technical documentation required under art. 18 para. 3 AI Act can be incorporated into the records already maintained pursuant to EU financial services legislation. Lastly, automatically generated logs can be recorded within existing systems (art. 19 para. 2 AI Act). These provisions allow financial institutions to use their already existing compliance, audit, and governance frameworks to meet the AI Act requirements.[194] Within the supervisory framework, the development process is subject to BaFin's oversight. In this context, training data sets and test results are already submitted to BaFin.[195]

3.4. Liability

3.4.1. Generally

Despite the implementation of preventive, safety-oriented rules, AI system-related harms cannot be entirely avoided. The primary purpose of product safety regulations as regulated under the AI Act is preventive: they require adherence to technical standards before products enter the market, thereby reducing the likelihood of damages. However, no *ex-ante* measure can fully eliminate risk. Consequently, product liability rules operate *ex post*, holding manufacturers accountable for damage caused once products are placed on the market.[196]

The autonomy, unpredictability, opacity, and complexity of AI systems create substantial challenges for conventional legal concepts such as causation and duty of care. Establishing liability can be complicated because AI technologies—ranging from self-learning algorithms to interconnected devices like automated vehicles—can behave in unexpected ways, undermining the connection between the harm and the alleged wrongdoer. Additionally, the involvement of multiple actors and potentially contributing factors further obscures liability, making it more difficult for victims to recover damages.[197]

Against this backdrop, the European Union has for some time prioritized the regulation of liability for damages caused by AI systems. The EU has progressively developed a legal framework to address AI-related challenges. In 2017, the European Parliament called on the European Commission to explore liability for autonomous systems, evaluating strict liability or risk-based approaches.[198] This was followed by the EC Expert Group's 2019 report, which noted that while existing liability regimes provide basic protection, AI's complexity, self-learning, opacity, and unpredictability complicate compensation claims.[199] The 2020 White Paper on AI and its accompanying report highlighted gaps in procedural aspects, such as identifying liable parties for claims.[200] In 2022, the EC proposed the AI Liability Directive in order to adapt civil liability rules to AI,

[193] With the exception of those referred to in art. 17 para. 1 lit. g to i AI Act.
[194] For more information see Langenbucher 2022, 374 et seq.; Hacker 2024, 28 et seq.; see also Weltersbach and Aslan 2025, 49 (51).
[195] Interview K1.
[196] Montagnani et al. 2024, 11; see also Theis 2024, 414 (415 et seq.).
[197] Montagnani et al. 2024, 5.
[198] European Parliament, Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics.
[199] European Commission, Liability for Artificial Intelligence and Other Emerging Digital Technologies: Report from the Expert Group on Liability and New Technologies – New Technologies Formation.
[200] European Commission, Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics.

introducing disclosure obligations and easing the burden of proof.[201] However, in February 2025 the Commission withdrew the proposal.

3.4.2. New Product Liability Directive

However, efforts to regulate liability aspects of AI have not been entirely unsuccessful. In 2024, the new Product Liability Directive (nPLD) was adopted,[202] which includes several products within the scope of the directive and thus expands the scope of strict liability. This affects, among other things, AI systems.

The nPLD primarily expands the definition of a product and explicitly includes software (art. 4 no. 1 nPLD). The directive therefore also covers AI systems. Accordingly, the term "product" refers to all movables, even when integrated into or interconnected with another movable or immovable. Furthermore, "product" also includes electricity, digital manufacturing files, raw materials, and software. This captures standalone software, integrated AI components, and digital services essential for a product's functionality, such as navigation systems in smart devices.[203] Software also covers AI systems, which is essentially a form of software.[204]

According to the nPLD, information is not to be considered a product (recital 13). This raises the question of whether the provision of training data for AI systems is excluded from liability under the nPLD. Information that is not to be considered a product includes the content of digital files, such as media files or e-books or the pure source code of software (recital 13 nPLD). In contrast, training data is not merely abstract information but an indispensable input that shapes the system's performance, reliability, and safety. Biases, errors, or deficiencies in such data may directly contribute to harmful outputs, thereby establishing a causal link between the training data and the damage suffered. Against this background, the supply of training data may be regarded as a related service and thus as a core component of the AI system falling within the framework of product liability.[205]

Injured persons are entitled to compensation for damage caused by a defective product (art. para. 1 no. 1 nPLD). A product is considered defective if it does not provide the safety that a person is entitled to expect or that is required under Union law or national law (art. 7 para. 1 nPLD). Accordingly, AI systems are deemed defective within the meaning of the nPLD if, among other things, they fail to comply with the requirements of the AI Act. The defectiveness of a product is presumed if, among other things, the injured person proves that the product does not comply with binding requirements of Union law or national law on product safety, which are intended to protect against the type of harm suffered by the injured person (art. 10 para. 1 lit. b nPLD). In this respect, the requirements of the AI Act are of particular importance, since the AI Act was adopted, inter alia, with the aim of "ensuring a high level of protection of health, safety, [and the] [206]fundamental rights as enshrined in the Charter of Fundamental Rights of the [EU] [CFR][207]" and "to

[201] Proposal for a Directive of the European Parliament and of the Council on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive), COM(2022) 496 final, Brussels, 28 September 2022. For more information see Theis 2024, 414 (417 et seq.)
[202] Directive (EU) 2024/2853 of the European Parliament and of the Council of 23 October 2024 on liability for defective products and repealing Council Directive 85/374/EEC. The directive must be transposed into national law by 9 December 2026 and applies to products placed on the market after 9 December 2026.
[203] Spindler 2023, 5.
[204] Hacker 2022, 16.
[205] See also Spindler 2023, 6; Hacker 2022, 18; Borges 2025, paras. 52-55.
[206] Unlike the English version, the German verison of the text contains "and the".
[207] Charter of Fundamental Rights of the European Union, OJ 2012 C 326/391 (hereinafter CFR).

protect against the harmful effects of AI systems in the Union" (recital 1 AI Act). Thus, the defectiveness of an AI system would be presumed if it fails to meet the requirements of the AI Act.

Once deployed, AI systems may continue to learn and interact with other data sources, making them both highly adaptive and inherently vulnerable to errors and security risks.[208] A product's capacity to continue to learn after being placed on the market is taken into account when assessing defectiveness (art. 7 para. 2 lit. c nPLD). As such, the manufacturer is also liable for any resulting unexpected and harmful behavior (recital 32 nPLD). Accordingly, where an AI credit advice tool develops unexpected patterns of bias or misjudges creditworthiness, the manufacturer may be held responsible for the harm.

According to art. 6 nPLD, the right to compensation applies only to certain types of damage. It primarily covers death, personal injury, and medically recognized mental health harm, while damage to the defective product itself is excluded (art. 6 para. 1 nPLD). In addition, only consumer property is protected, as property used exclusively for professional purposes lies outside the scope of the nPLD (art. 6 para. 1 lit. b(iii) nPLD). Recital 24 clarifies that pure economic loss, violations of privacy, or breaches of the prohibition of discrimination do not trigger liability under the nPLD. This undoubtedly represents a significant limitation of the scope of the nPLD, particularly with regard to AI systems. AI systems often cause economic- or data protection-related harms rather than physical damage. Privacy infringements or discriminatory outcomes, which frequently occur with AI systems, are excluded from the strict liability regime of the nPLD. If an AI-based credit advice tool generated biased or inaccurate recommendations—e.g., misleading consumers toward unsuitable loans—the resulting financial loss would constitute pure economic damage, which is not compensable under the nPLD.

Finally, losses excluded by the nPLD remain compensable under other liability frameworks (art. 6 para. 3 nPLD). In this regard, both general provisions on contractual or tort liability and specific regulations under the GDPR or consumer credit law may apply.

4. Risks

4.1. Data protection risks

The use of an AI tool for credit advice and lending generally requires the installation and configuration of the system on servers, both centrally and locally at branches. Once operational, it will process personal customer data—such as income information, credit history, and payment patterns—to generate individualized credit advice and, if necessary, prepare the credit application. Personal data is also used in the training, validation, and testing of AI systems. The processing of personal data in the development and operation of AI systems creates risks of violations of data protection regulations.

4.1.1. Assignment of responsibilities

Data protection regulations apply both to the provision of the credit advisory service itself and to the use of customer data in training the AI system, whether in the initial development phase or later during further-training with newly collected data. Where personal data is processed for the purpose of credit advice, the institution providing the advice qualifies as the data

[208] Montagnani et al. 2024, 4.

controller, since it determines the purposes and means of the processing within the meaning of art. 4 para. 7 GDPR.

However, when AI systems are developed by third parties, the allocation of responsibilities depends on who determines the purposes and essential means of processing. If the bank deploys the tool for credit advice and lending, and if it processes consumer data collected during the credit advice and lending for its own purposes (i.e., for credit advice and lending), the bank qualifies as an independent controller. This is especially the case when the system is used to make automated decisions within the meaning of art. 22 GDPR.[209] Therefore, banks are liable as controllers when they use AI systems developed by third parties under their own responsibility for processing personal data for their own purposes. To mitigate liability risks, banks should require in their development agreements with third parties that the AI system be developed in compliance with applicable data protection regulations. In addition, they could include contractual indemnification or recourse clauses. However, the external developer may act as an independent controller if they process the bank's data for their own purposes, e.g., to improve or further develop their systems. In such cases, the developer determines the purposes and means of the processing independently of the bank's role. If, on the other hand, the bank uses an AI application provided as a service (e.g., via a cloud solution) and the provider supplies only the technology and processes data strictly on the bank's instructions, it is a processor within the meaning of art. 28 GDPR; in this case a data-processing agreement including provisions on technical and organizational measures must be concluded.[210] However, the external developer can act as an independent controller if it processes the bank's data for its own purposes, such as improving or further training its systems. In such cases, the developer independently determines the purposes and means of the processing, separate from the bank's role.[211] In such cases, particular emphasis must be placed on the rights of the data subjects. Also, consumers must not only be informed in a transparent manner, but there must also be a valid legal basis for processing their data for the further development of the external developer's system.

Joint controllership can also arise where the bank and the developer jointly determine the purposes and essential means of processing.[212] Additionally, where entities make complementary decisions that are essential to the processing and have a real impact on defining its purposes and means, they are considered joint controllers.[213] This may occur, for example, in collaborations between several entities where an AI application is fed or trained with different data sets.[214] In these situations, art. 26 GDPR requires the parties to enter an arrangement that allocates their

---

[209] Paal and Schulz 2025, 89 (103 et seq.).

[210] Konferenz der unabhängigen Datenschutzbehörden des Bundes und der Länder, Orientierungshilfe der Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder vom 6. Mai 2024, Künstliche Intelligenz und Datenschutz, para. 32. The EDPB clarifies that controllers decide on the purposes and the essential means of processing, while processors may still choose some non-essential or technical means within the controller's framework, see Guidelines 07/2020 on the concepts of controller and processor in the GDPR, Version 2.1, 3.

[211] Wilmer in: Jandt et al. 2025, para. 663.

[212] EDPB, Guidelines 07/2020 on the concepts of controller and processor in the GDPR, 19.

[213] EDPB, Guidelines 07/2020 on the concepts of controller and processor in the GDPR, 19; Konferenz der unabhängigen Datenschutzbehörden des Bundes und der Länder, Orientierungshilfe der Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder vom 6. Mai 2024, Künstliche Intelligenz und Datenschutz, para. 33.

[214] Konferenz der unabhängigen Datenschutzbehörden des Bundes und der Länder, Orientierungshilfe der Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder vom 6. Mai 2024, Künstliche Intelligenz und Datenschutz, para. 33.

respective responsibilities, particularly with regard to data subject rights and transparency obligations.

4.1.2. Data processing for the purpose of credit advice and lending

All operations performed on personal data constitute processing (art. 4 para. 2 GDPR). Therefore, both credit advisory services and the development of AI systems for credit advice are subject to the principles found in art. 5 para. 1 GDPR, namely lawfulness, fairness, transparency, purpose limitation, data minimization, accuracy, storage limitation, integrity, and confidentiality. According to art. 5 para. 2, the controller is accountable for compliance with these principles and must be able to demonstrate compliance.

4.1.2.1. Application of general principles

Applying the GDPR's general principles to personal data in the context of credit advice is essential both for safeguarding consumers' rights and for ensuring compliance. Personal data must be processed lawfully—on the basis of one of the legal grounds provided under the GDPR—and fairly and transparently, as required by art. 5 para. 1 lit. a GDPR together with the information obligations set out in art. 12–14 GDPR (principle of lawfulness, fairness and transparency). The principle of purpose limitation (art. 5 para. 1 lit.b GDPR) restricts the use of data collected during the advisory process to the assessment of creditworthiness.

According to the principle of data minimization (art. 5 para. 1 lit. c GDPR), the processing of data must be limited to what is strictly necessary to achieve the purpose. According to expert interviews, some questions in the exploratory phase of credit advice are ambiguous, making it difficult for consumers to clearly understand what information is being requested.[215] It is therefore often necessary to explain these exploratory questions by means of examples or with human support.[216] Overall, these interviews demonstrate that human advisors create added value by raising consumers' awareness and providing guidance beyond mere calculations. They can, for instance, uncover overlooked obligations, such as small installment payments or other consumer loans (e.g., "buy now, pay later" credit). In credit advice and application processes, this human assistance helps ensure that data collection remains understandable and adheres to the principle of data minimization. In entirely online-based processes where the human element is missing, AI tools must therefore be designed to be consumer-friendly to meet GDPR requirements for fairness and transparency. Accordingly, such tools should integrate mechanisms that replicate the advice and explanations provided by human advisors, allowing consumers to understand the meaning of their information and the consequences of their decisions.

The increased risks associated with the processing of special categories of personal data (art. 9 GDPR), such as trade union membership or ethnic origin, must be taken into account, even if the processing is carried out solely for credit advisory or lending purposes. In principle, neither credit advice nor lending requires the processing of special categories of personal data within the meaning of art. 9 GDPR. Moreover, creditworthiness assessments should not include the processing of special categories of personal data at all (art. 18 para. 3 CCD2). Therefore, controllers are not permitted to process such data under the provisions of the directive if the AI tool links credit advice with lending as in this case the AI tool would conduct a creditworthiness

[215] Interview V1.
[216] Interview K3.

assessment.[217] In the case of an AI tool used solely for credit advice, the processing of such data would violate the principle of data minimization, as the data are not necessary for the purpose of credit advice. For this reason, banks will not be able to rely on the exceptions under art. 9 para. 2 GDPR to justify collecting such data for credit advice purposes.

According to the principle of accuracy (art. 5 para. 1 lit.d GDPR), institutions must ensure that personal data are accurate and kept up to date.[218] Outdated or incorrect information can distort the ultimate recommendation of the advisory service as well as, where applicable, the creditworthiness assessment, thereby leading consumers to unsuitable products. As one expert pointed out:

"There are cases where false information could even lead to the [banks] saying we'll throw you out."[219]

Thus, the accuracy of personal data is particularly important in the context of credit advice and lending due to its significant financial implications. Accordingly, the requirement that advice must be based on up-to-date information derives not only from credit law provisions[220] but also from data protection principles.

Finally, the principles of storage limitation, integrity and confidentiality, and accountability must be observed. According to the principle of storage limitation (art. 5 para. 1 lit. e GDPR), data may be stored only for as long as it is legally required. The principle of integrity and confidentiality (art. 5 para. 1 lit. f GDPR) requires robust technical and organizational safeguards to protect financial data from misuse, alteration, or unauthorized access. Under the principle of accountability (art. 5 para. 2 GDPR), credit institutions and credit intermediaries must not only comply with these obligations but must also be able to demonstrate compliance.

4.1.2.2. Solely automated data processing

The lawfulness of data processing in the context of credit advice must be assessed under the GDPR framework. In this context, significant data protection risks arise and demand close attention, such risks including the prohibition of automated decision-making under art. 22 para. 1 GDPR, especially where credit advice is closely intertwined with lending decisions.

According to art. 22 para. 1 GDPR, the solely automated processing of personal data, including profiling, is prohibited where a decision producing legal effects concerning a natural person or similarly significantly affecting them is based solely on such automated processing. Profiling means any form of automated processing of personal data used to evaluate certain personal aspects relating to a natural person, in particular to analyze or predict aspects concerning that person's economic situation, reliability, behavior, health, or preferences (art. 4 para. 4 GDPR). Since an AI-based tool for credit advice and lending will involve solely automated decision making and profiling, particularly through the creditworthiness assessment, the application of art. 22 GDPR must be analyzed.

---

[217] For the suggestion of EDPS for the exclusion of the processing of the special categories of data for European Data Protection Supervisor, see European Data Protection Supervisor, Opinion 11/2021 on the Proposal for a Directive on Consumer Credits.

[218] The accuracy principle under art. 5 para. 1 lit. d GDPR requires banks to take every reasonable step to ensure the accuracy of personal data obtained from credit databases. This may involve cross-checking the data provided by the credit database against customer-provided information and maintaining documented internal policies for reviewing and correcting inconsistencies.

[219] Interview V2.

[220] See above 2.2.2 Exploration.

There is no exclusively automated processing of personal data if human intervention is integrated as an essential part of the decision-making process. When human involvement is an integral part of the decision, the process is no longer considered solely automated, since the human remains "in the loop." The EDBP has clarified that meaningful human involvement is necessary to ensure that decision-making is not solely automated, emphasizing that oversight must go beyond a "token gesture" and be capable of genuinely influencing outcomes.[221] The key factor in determining whether a decision is solely automated is whether bank employees exercise their discretion and expertise in assessing the applicant's overall ability and willingness to pay.[222] In this regard, academic literature has identified significant challenges in credit lending, including employees' limited understanding of automated systems, insufficient technical expertise, and a lack of transparency for both staff and consumers.[223] Thus, for an AI tool in credit advice and lending to be fair and responsible, the deliberate integration of human judgment into the system, along with safeguards against opacity, bias, and excessive reliance on automation, is essential.[224]

Furthermore, what may appear at first sight to be a merely preparatory step in decision-making can, upon closer examination, amount to a decision by itself. Credit scoring provides a good example of this. In its *SCHUFA* ruling,[225] the CJEU held that automated credit scoring may itself amount to a "decision" within the meaning of art. 22 para. 1 GDPR when third-party lenders *"draw strongly"* on the score in their own determinations. The Court rejected the argument that scoring is merely preparatory in instances when the outcome is heavily relied upon, adopting instead a broad interpretation of what constitutes a "decision."

Moreover, an automated decision must either produce legal effects or affect the data subject in a similarly significantly way to fall within the scope of the prohibition under art. 22 para. 1 GDPR. In a legal dispute in which the plaintiff claimed that an automated credit score had unlawfully prevented him from accessing services—specifically a Deutschland-Ticket subscription and the opening of an online account—the OLG Nürnberg rejected this claim. The court found that the plaintiff had demonstrated neither a legal effect nor a similarly significant effect. With respect to the Deutschland-Ticket, the court emphasized that not all transport companies relied on credit scores and that the ticket remained available through prepaid options, meaning access to public transport was not effectively prevented. As for the online account, the court held that no serious disadvantage arose because online retailers typically provided alternative payment methods. The court therefore concluded that the claimant had not demonstrated the required level of effect under art. 22 para. 1 GDPR.[226] This restrictive interpretation of legal effect and similarly significant effect under art. 22 para. 1 GDPR risks undermining the purpose of the provision. Art. 22 GDPR is designed to protect individuals from the consequences of automated decision-making. By conditioning its applicability on whether alternatives to the refused service remain available, the court introduces new considerations. Such an approach narrows the scope of protection in practice and may contradict the protective rationale of art. 22 GDPR.

This ruling raises the question of whether the availability of alternatives should play a role in credit agreements. In our view, however, the explicit wording of recital 71 GDPR leaves no room for the introduction of additional criteria, such as the availability of alternatives, when rejecting a

[221] Article 29 Data Protection Working Party, Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679, 21; Riechert and Bücken 2022, 17.
[222] Buck-Heeb 2023, 1625 (1631).
[223] Züger et al. 2025b, 1271 et seq.
[224] See also Züger et al. 2025b, 1272.
[225] CJEU, Judgment of 7 December 2023 – C-634/21 (*SCHUFA*), para. 73.
[226] OLG Nürnberg, Ruling of 24 June 2025 – 3 U 247/25, paras. 33-35.

credit application. Recital 71 explicitly cites the rejection of a credit application as an example within the meaning of art. 22 GDPR—without specifying whether further alternatives remain available to the person applying for the credit. Against this backdrop, any rejection by the AI tool for credit advice and lending must necessarily be classified as a similarly significant effect within the meaning of art. 22 para. 1 GDPR.

Finally, the question to be answered is whether the decision of a lender depends significantly on the probability value.[227] This value can be the result of a solely internally conducted creditworthiness assessment or a credit score. Regarding credit scores, the LG Bayreuth has ruled that banks regularly reject the credit application of a consumer due to a poor credit score without further verification, since an individual review of each rejection decision is quite costly and thus not common practice in automated bulk transactions, as explained in the reasoning of the judgment. In major credit decisions, a positive score might, at most, be considered as one factor among others, which was not the situation in the dispute.[228] Similarly, the LG Bamberg held that the payment of fees for a credit score demonstrates their decisive relevance in the decision-making process. Although additional factors such as personal income and assets may also be specifically taken into account, the credit score remains a decisive criterion.[229] However, the OLG Nürnberg decided that the mere calculation and transmission of a credit score does not in itself amount to an automated decision under art. 22 GDPR. The provision applies only where, for instance, a bank's refusal of credit depends decisively on the credit score. Neither the general practical importance of scores nor a mere abstract risk of influence is sufficient to prove that the credit score is decisive for the credit decision.[230] Similarly, the OLG München held that art. 22 para. 1 GDPR cannot be the grounds for a general prohibition of scoring, as the decisive reliance on a score for the credit decision must be established on a case-by-case basis; in the case at hand, it was rather the claimant's proven payment defaults, not just the score alone, that constituted the decisive reason for the refusal of credit.[231]

4.1.2.3. Exceptions to the prohibition of solely automated processing

The prohibition of an exclusively automated processing of personal data, including profiling, does not apply if one of the narrow exceptions in art. 22 para. 2 GDPR applies. Accordingly, the prohibition does not apply if a decision based solely on automated processing:

(i) is necessary for the conclusion or performance of a contract (lit. a), or
(ii) is permitted under European or national law (lit. b), or
(iii) is with the explicit consent of the data subject (lit. c).

In connection with the exception under art. 22 para. 2 lit. b GDPR, German national law must be taken into account. For the permissibility of exclusively automated processing and profiling under national law, § 31 of the Federal Data Protection Act (BDSG) is of considerable importance, as it is intended to enable credit scoring in German law. According to this provision

"[f]or the purpose of deciding on the creation, execution or termination of a contractual relationship with a natural person, the use of a probability value for certain future action by this person (scoring)"

[227] CJEU, Judgment of 7 December 2023 – C-634/21 (*SCHUFA*), paras. 40 et seq.
[228] LG Bayreuth, Judgment of 29 April 2025 – 31 O 593/24, para. 35.
[229] LG Bamberg, Judgment of 26 March 2025 – 41 O 749/24 KOIN, para. 28.
[230] OLG Nürnberg, Ruling of 24 June 2025 – 3 U 247/25, paras. 8-17 and 28.
[231] OLG München, Ruling of 25 February 2025 – 37 U 3586/24e, paras. 31-33.

is permitted under certain conditions. However, both the VG Wiesbaden[232] and the Advocate General[233] have raised doubts as to the compatibility of § 31 BDSG with the GDPR. It should be taken into account that that § 31 BDSG regulates only the *use* of probability scores, not their *establishment*. Moreover the provision is not limited in scope to fully automated decisions but covers the use of credit scoring in general. Therefore, doubts arise as to whether § 31 BDSG can be regarded as a national legal provision within the meaning of art. 22 para. 2 lit. b GDPR and whether art. 22 para. 2 lit. b GDPR can be invoked as an opening clause to regulate scoring in national data protection law. In reference to these doubts, the CJEU stated that it is for the national court to assess whether § 31 BDSG is a valid legal basis under art. 22 para. 2 lit. b GDPR.[234] In another ruling, the LG Bayreuth held that § 31 BDSG was inapplicable and could not serve as an independent authorization norm under EU law. According to that court, the matter is conclusively regulated in art. 22 and 6 GDPR.[235]

In order to counteract the incompatibility with European law, a draft bill amending the BDSG is currently before the German Parliament. This daft bill was, however, not adopted during the term of office of the previous federal government.[236] § 37a of this draft establishes an exception to the prohibition in art. 22 para. 1 GDPR for scoring activities based solely on automated processing. Until this amendment to the law is passed, there is no legal basis in national law within the meaning of art. 22 para. 2 lit. b GDPR for scoring activities. In its *SCHUFA* ruling, the CJEU further clarified that even if a member state legally permits automated decision-making, such processing must still comply with the data protection principles set out in arts. 5 and 6 GDPR.[237] Therefore, the exceptions for automated decision-making in art. 22 para. 2 GDPR do not override the more general requirements for lawful processing. Therefore, in this sense, the exceptions for fully automated decisions in art. 22 para. 2 GDPR do not take precedence over the more general requirements for lawful processing.

Controllers may rely on the exception of necessity for entering into or performing a contract in art. 22 para. 2 lit. a GDPR where they regard automation as the most effective means of achieving their objectives. This is especially the case for large volumes of data that render routine human intervention impractical.[238] This is particularly relevant in the credit lending context, where banks process thousands of applications on a daily basis. Expecting each application to be reviewed with full human intervention could be practically impossible, leading to delays, higher costs, and inconsistent outcomes. However, controllers must demonstrate that such automated processing is genuinely necessary and that no equally effective but less intrusive alternative is available.[239]

Finally, significant concerns are raised by the applicability of the exception based on the data subject's explicit consent (art. 22 para. 2 lit. c GDPR) in respect of credit decisions. For consent to be valid, it must be freely given, specific, informed, and unambiguous. In the financial services sector, however, the validity of consent is questionable due to structural power

---

[232] VG Wiesbaden, Ruling of 1 October 2021 – 6 K 788/20.WI, BKR 2021, 782.

[233] CJEU, Opinion of Advocate General Pikamäe delivered 16 March 2023 – C-643/21 (*SCHUFA*), paras. 64-66.

[234] CJEU, Judgment of 7 December 2023 – C-634/21 (*SCHUFA*), paras. 71 and 72.

[235] LG Bayreuth, Judgment of 29 April 2025 – 31 O 593/24, para. 39.

[236] Federal Government Bill – Draft of a First Act Amending the Federal Data Protection Act, BT-Drs. 72/24.

[237] CJEU, Judgment of 7 December 2023 – C-634/21 (*SCHUFA*) paras. 67 et seq.

[238] Article 29 Data Protection Working Party, Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679, 23.

[239] It is also argued that, in the context of credit scoring, this exception cannot constitute a valid legal basis, since the processing must be shown to be objectively indispensable for the performance of the contract itself - not merely useful, convenient, or efficient, but essential, see Arnal 2025, 4.

imbalances between lenders and consumers, the opacity of algorithmic processes, and the absence of genuine alternatives to automated decision-making.[240]

The processing of personal data by an AI tool for credit advice and lending is therefore lawful only if it falls under an art. 22 para. 2 GDPR exception and also meets the conditions of arts. 5 and 6 GDPR.[241] In this regard, art. 6 para. 1 lit. b GDPR regulates the processing of personal data for the performance of a contract or for taking steps prior to entering into a contract. Accordingly, personal data—including credit scores—may be collected, processed, and transmitted in accordance with the principle of proportionality, insofar as this is necessary for the performance of a contract to which the data subject is a party or for taking steps prior to entering into a contract at the request of the data subject. In this context, credit scores may be processed pursuant to art. 6 para. 1 lit. b GDPR, in particular for the purpose of assessing creditworthiness when concluding long-term contractual relationships.[242] According to expert interviews, credit intermediaries do not request credit reports from credit databases for credit advice—these are obtained exclusively by the banks themselves.[243] In practice, banks' data protection notices regularly state the bank's legitimate interest (art. 6 para. 1 lit. f GDPR) as the legal basis for processing information from credit databases. Data protection notices regarding the use of an AI tool for credit advisory and lending purposes may rely on art. 6 para. 1 lit. b GDPR as well as art. 6 para. 1 lit. f GDPR when querying the credit score.

An AI tool solely for credit advice would involve the processing of personal data and the creation of profiles, but it would not constitute a final decision with legal or similarly significant effects.[244] Accordingly, art. 22 GDPR does not apply, as such advice is not final and, in itself, does not have any legal effects on the data subject. Nevertheless, the processing remains subject to the GDPR. Therefore, a legal basis under art. 6 GDPR is required. For the collection of personal data directly between the data subject and the bank, art. 6 para. 1 lit. b GDPR serves as the legal basis, i.e., processing for the purpose of contract fulfillment. However, the inclusion of the credit score in the AI tool solely for credit advice requires the consent of the data subject. Whether the bank can invoke its own legitimate interest for the inclusion of the credit score is doubtful. Given that the bank does not assume a risk in the context of credit advice, as it does in a credit agreement, its interests would not outweigh those of the data subject. The balancing would therefore fall in favor of the data subject.

Witholding access to fully automated credit advice (even when not linked to lending) constitutes a decision within the meaning of art. 22 para. 1 GDPR. In practice, banks or bank personnel occasionally refuse to provide or will interrupt advice services if it is determined that the person seeking advice has an insufficient credit score.[245] Since refusing to conclude a credit advice contract constitutes an effect with a significance at least similar to that of a legal effect, all the

[240] Arnal 2025, 4.
[241] However, one view in the literature argues that art. 22 para. 2 lit. b GDPR represents the primary basis for assessing the lawfulness of automated credit assessments by credit databases and reflects the principle that the specific provisions for automated decisions in Art. 22 prevail over the general legal bases for data processing in Art. 6 para. 1 lit. a to f GDPR, see Andrade and Morgado Rebelo 2024, 6.
[242] Krämer in: Wolff et al. 2023, BDSG § 31 para. 21. However, the author states that in cases where credit scores are obtained from a credit database, their use depends on the scores having been generated in compliance with art. 6 para. 1 lit. f GDPR, taking due account of the data subject's overriding interests and following a legitimate balancing test. Otherwise, the responsibility for conducting this balancing test rests with the institution using the score.
[243] Interviews K4 and KV2.
[244] Buck-Heeb 2023, 1625 (1631 et seq.).
[245] Interview V1.

elements for the application of art. 22 GDPR would be met. Consequently, the rights of data subjects under art. 22 para. 3 GDPR, including the right to present their own viewpoint and to obtain human intervention, are applicable.

4.1.2.4. Suitable measures to safeguard the data subject's rights and freedoms and legitimate interests

In the case of an AI tool for credit advice and lending, the controller must take appropriate measures if it relies on the performance of a contract or the data subject's explicit consent as an exception (art. 22 para. 3 GDPR). At a minimum, these safeguards must guarantee the individual's right to obtain human intervention, to present their own viewpoint, and to contest the decision. In this sense, a crucial element of ensuring GDPR compliance in AI-driven credit lending systems is intervenability—i.e., the practical ability for individuals to seek and obtain meaningful human review of automated outputs.[246] Consumers must be given the opportunity to contest the credit decision provided by the system, and human supervisors within the bank or credit institution must be able to review, understand, and, where necessary, alter or override the automated decision.[247]

Art. 86 AI Act builds upon the foundation set by art. 22 in conjunction with art. 15 para. 1 lit. h GDPR and extends the right to explanation to high-risk AI systems, including AI systems for creditworthiness and credit assessment. Art. 86 of the AI Act grants a right to explanation for decisions "based on the outputs" of high-risk AI systems. Unlike art. 22 GDPR, this right is not restricted to decisions made solely by automated means. However, the scope of art. 86 is limited by other EU legal instruments, applying only "to the extent not otherwise provided by Union law" (art. 86 para. 3 AI Act). An AI tool for credit advice and lending that qualifies as a high-risk AI system would be subject to the GDPR, the AI Act, and the CCD2 simultaneously.[248]

As regards an AI tool for credit advice and lending, the GDPR and the CCD2 already provide safeguards in terms of transparency and accountability. Therefore, the added value of art. 86 AI Act may be limited to scenarios where existing frameworks do not provide sufficient measures ensuring that data subjects receive meaningful explanations. Art. 22 para. 3 GDPR requires only the implementation of "suitable measures" which should "at least" include human intervention, the opportunity to express one's own point of view, and the possibility to contest the decision.[249] In this respect, the list in Art. 22 para. 3 GDPR is illustrative rather than exhaustive, meaning that the assessment of the adequacy of the measures taken will depend on the context. In this regard, art. 18 para. 8 CCD2 also establishes safeguards if the creditworthiness assessment involves automated processing of personal data, namely the right to information, the right to express one's own point of view, and the right to review the creditworthiness assessment and the credit

[246] Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Vorschläge für Handlungsempfehlungen an die Bundesregierung zur Verbesserung des Datenschutzes bei Scoringverfahren, Stellungnahme vom 11. Mai 2023, 16.

[247] Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Vorschläge für Handlungsempfehlungen an die Bundesregierung zur Verbesserung des Datenschutzes bei Scoringverfahren, Stellungnahme vom 11. Mai 2023, 16.

[248] Engelfriet 2025, 2.

[249] See also recital 71 sentence 4:"In any case, such processing should be subject to suitable safeguards, which should *include* specific information to the data subject and the right to obtain human intervention, to express his or her point of view, to obtain an explanation of the decision reached after such assessment and to challenge the decision." (Emphasis by authors).

decision.[250] For an AI tool for credit advice and lending, it is recommended that the data protection mechanisms comply with the GDPR and the CCD2.

4.1.2.5. Right to explanation

Arts. 13 and 15 GDPR establish both *ex post* and *ex ante* transparency obligations, which enable data subjects to understand and, if necessary, challenge exclusively automated decisions. Art. 13 GDPR primarily governs *ex ante* information provision, while art. 15 ensures *ex post* explanation obligations for solely automated decisions.[251] According to art. 13 GDPR, certain information, such as the name and contact details of the controller, must be communicated to the data subject at the time the data is collected. Regarding the scope of the right of access under art. 15 GDPR, the EDPB is of the opinion that the information to be provided does not necessarily have to be *ex post* in nature and be specifically related to the decision concerning the individual's situation; rather, it may instead be the same information that was provided before the processing.[252] Contrary to the approach of the EDPB, in the *Dun & Bradstreet* judgment the CJEU held that the information to be provided cannot remain abstract but must relate to the procedure and principles actually applied. Furthermore, the Court did not regard this merely as a right to be informed but as a right to an explanation.[253] Additionally, in May 2023, the Berlin Commissioner for Data Protection and Freedom of Information imposed a fine of 300,000,- EUR on a bank for failing to provide transparency in an automated rejection of a credit card application. The bank's algorithm, based on predefined criteria and external data, rejected the application, but the bank refused to disclose the specific reasons for its assessment and provided only general information. The Commissioner found violations of art. 22 para. 3, art. 5 para. 1 lit. a, and art. 15 para. 1 lit. h GDPR and emphasized that banks are obliged to provide customers with concrete information about the data basis, the decision-making factors, and the specific criteria applied in each individual case.[254]

The CJEU clarified that the notion of "meaningful information" should be interpreted broadly, read across language versions, and understood as a right to an explanation of the actual procedure and principles applied to reach a specific outcome, such as a credit profile.[255] The information provided must meet the standards of art.12 para. 1 GDPR, ensuring that data subjects can effectively exercise their rights under art. 22 para. 3, including the rights to human intervention, to express their viewpoint, and to contest the decision.[256] The Court

[250] See also AT 4.3.5. No. 6 MaRisk.

[251] According to art. 13 para. 2 lit. f GDPR, data controllers must inform data subjects about the existence of automated decision-making, including profiling, referred to in Articles 22 paras. 1 and 4, and, at least in those cases, meaningful information about the logic involved as well as the significance and the envisaged consequences of such processing for the data subject. Art. 15 para. 1 lit. h GDPR grants data subjects the right to obtain information from the controller regarding the existence of automated decision-making, including profiling, referred to in art. 22 para. 1 and 4 GDPR, and, at least in those cases, meaningful information about the logic involved, as well as the significance and the envisaged consequences of such processing for the data subject.

[252] Article 29 Data Protection Working Party, Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679, 26 et seq. Similarly, in academic literature it is argued that the GDPR does not grant an *ex post* individualized right to explanation, see Wachter et al. 2017, 9. According to the authors, the right to an explanation cannot be derived either from art. 22 para. 3 GDPR, which sets out specific safeguards, or from the notification obligations under art. 13 or 14 GDPR, as neither provides an appropriate legal basis to claim an *ex post* individual specific explanation, Wachter et al. 2017, 9,15.

[253] CJEU, Judgment of 27 February 2025 – C-203/22 (*Dun & Bradstreet Austria*), para. 58.

[254] See Berliner Beauftragte für Datenschutz und Informationsfreiheit 2023.

[255] CJEU, Judgment of 27 February 2025 – C-203/22 (*Dun & Bradstreet Austria*), paras. 40-43.

[256] CJEU, Judgment of 27 February 2025 – C-203/22 (*Dun & Bradstreet Austria*), para. 58.

emphasized that controllers cannot fulfill these obligations merely by presenting complex formulas or technical details; rather, they must provide concise, intelligible, and transparent explanations that a non-technical data subject can understand.[257] The Court pointed out that an appropriate way of fulfilling these requirements may be to inform the data subject to what extent a variation in the personal data used would have led to a different result.[258] Accordingly, art. 15 para. 1 lit. h GDPR requires controllers to explain in clear, accessible terms the procedure and principles actually applied in automated decision-making, identifying the most influential factors in the decision.[259] The explanation provided to data subjects should include a feature sensitivity analysis and identify the most influential features in the credit decision.[260]

One of the key challenges in the area of automated decision-making, particularly in credit decisions and credit assessments, is reconciling the obligation to provide information and explanations to data subjects with the protection of trade secrets and third-party rights. In this regard the CJEU held that the controller can fulfill its obligations under art. 15 para. 1 lit. h GDPR by submitting the disputed information to the competent supervisory authority or the court if the information to be disclosed contains trade secrets or personal data of third parties.[261] It is then for that authority or court to balance the competing rights and interests to determine the scope of the data subject's right of access under art. 15 GDPR.[262] Full disclosure of AI systems can jeopardize legitimate commercial interests. Conversely, complete opacity prevents data subjects from understanding or contesting decisions that significantly impact them. The ruling promotes a balanced approach, viewing transparency not as an all-or-nothing requirement.[263] Subsequently, in a ruling regarding credit scoring, the LG Bayreuth followed the CJEU ruling in *Dun & Bradstreet* and held that the defendant must not only disclose the calculated score to the claimant but also provide the underlying input data, specifying for each factor how the score would have changed if it had been excluded. The defendant's trade secret objection was rejected, as the court concluded that such disclosure would not enable third parties to reconstruct the scoring system.[264] Since the value obtained as a result of the creditworthiness assessment also constitutes a scoring value, the principles established by European and German case law also apply to enforcement of the right to explanations pursuant to art. 18 para. 8 lit. a CCD2.

4.1.3. Data processing for the development of AI systems

The development, placing on the market, and operation of an AI tool for credit advisory services and lending involve the processing of personal data in each of these phases. For each phase, it must be determined which appropriate legal basis pursuant to art. 6 GDPR allows for data processing. The operation of consumer credit advice tools based on AI entails personal data processing at several phases, each of which raises questions about the appropriate legal grounds under art. 6 GDPR. In the training and model development phase, controllers most commonly rely on legitimate interests under art. 6 para. 1 lit. f GDPR. The legality of the processing that occurs during the placing on the market and operation phase, when the tool processes consumer data or information from external sources such as credit databases, is discussed in the previous chapter.[265] However, any secondary use of these data for further-training or model improvement

[257] CJEU, Judgment of 27 February 2025 – C-203/22 (*Dun & Bradstreet Austria*), para. 59.
[258] CJEU, Judgment of 27 February 2025 – C-203/22 (*Dun & Bradstreet Austria*), para. 62.
[259] CJEU, Judgment of 27 February 2025 – C-203/22 (*Dun & Bradstreet Austria*), para. 66.
[260] Hacker and Eber 2025, 18 et seq.
[261] Trade secrets as used here mean trade secrets in the sense of art. 2 para. 1 of Directive (EU) 2016/943.
[262] CJEU, Judgment of 27 February 2025 – C-203/22 (*Dun & Bradstreet Austria*), para. 76.
[263] Hacker and Eber 2025, 19.
[264] LG Bayreuth, Judgment of 29 April 2025 – 31 O 593/24, para. 49.
[265] See above 4.1.2.2 Solely automated data processing.

purposes falls under the purpose-limitation rules of art. 6 para. 4 GDPR and typically requires reliance on legitimate interests. Such further-training processing must fully comply with all GDPR requirements, including transparency, data minimization, and the safeguarding of data subject rights. Therefore, the explanations set out below regarding model development also apply to further-training of the model.

In its opinion on the processing of personal data in connection with AI systems, the EDPB placed particular emphasis on legitimate interests. Nevertheless, it emphasized that all legal bases of the GDPR are equally valid and that controllers must determine the most appropriate legal basis for processing personal data.[266] The following will therefore first provide a brief overview of the relevant legal bases and then addresses in detail the question of whether a legitimate interest can serve as a legal basis for the development of AI systems.

Consent (art. 6 para. 1 lit. a GDPR) is not a common legal ground stated in data controllers' privacy policies for AI training. In large-scale data collected for AI development, however, obtaining and managing such consent from all individuals whose data will potentially be processed is often infeasible—particularly when data has been scraped from public sources or collected indirectly.[267] Moreover, the withdrawal of consent and the resulting obligation to erase data (art. 17 para. 1 lit. b GDPR) pose practical challenges, since removing training data may impair system functionality or be technically complex.[268]

The legal ground of contractual necessity (art. 6 para. 1 lit. b GDPR) is also of limited relevance in the AI training context. It may cover the processing of data strictly necessary to conclude a loan application or to provide credit advisory services to a customer, but it does not extend to broader purposes such as the development, improvement, or further-training of AI systems. The EDPB has stressed that the "objective necessity" test under art. 6 para. 1 lit. b GDPR cannot be interpreted broadly so as to include processing that is merely useful for a controller's business model.[269]

Likewise, reliance on the basis of a legal obligation (art. 6 para. 1 lit. c GDPR) is possible only in those exceptional circumstances where a specific statutory requirement mandates the processing.[270] In practice, this ground has little relevance for AI training in the financial services or credit advice context, since no general legal obligation exists to process customer data for such purposes.

In practice, the applicability of consent, contractual necessity, and legal obligation as legal bases is either too limited or operationally impractical. The protection of the controller's legitimate interests (art. 6 para. 1 lit. f GDPR) is characterized by its broad and innovation-friendly nature, thus creating flexibility by taking into account both the controller's interests and those of third parties.[271] Regulators generally consider legitimate interests to be a suitable legal basis for

---

[266] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, 2.

[267] The French Data Protection Authority CNIL has emphasized that "[g]athering consent, however, is often impossible in practice for dataset creation. For example, when you collect data accessible online or reuse an open source database, without direct contact with data subjects, other legal bases will generally be more suitable", see CNIL, AI system development: CNIL's recommendations to comply with the GDPR.

[268] Der Landesbeauftragte für Datenschutz und Informationsfreiheit Baden-Württemberg 2024, 14.

[269] EDPB, Guidelines 2/2019 on the processing of personal data under Article 6(1)(b) GDPR in the context of the provision of online services to data subjects, para. 25.

[270] Der Landesbeauftragte für Datenschutz und Informationsfreiheit Baden-Württemberg 2024,17.

[271] Der Landesbeauftragte für Datenschutz und Informationsfreiheit Baden-Württemberg 2024, 21.

training AI systems. However, their application is subject to strict limitations and requires a balancing test, which must be applied carefully .[272] Where the test cannot be met, reliance on consent remains the only option. This illustrates the importance of conducting the balancing test properly. Accordingly, a detailed explanation of the application of this legal basis is provided below.

4.1.3.1. Legitimate interest as legal basis

The legitimate interests of the controller (art. 6 para. 1 lit. f GDPR) can justify data processing only if the three cumulative conditions are met: (i) the controller or a third party pursues a legitimate interest; (ii) the processing is necessary to achieve that interest; and (iii) the interests or fundamental rights and freedoms of the data subject do not override that interest.[273]

For an interest to be considered legitimate, it must be lawful, clearly and precisely defined, and real and present rather than merely speculative.[274] The EDPB's example ("developing the service of a conversational agent to assist users") is cited as a possible legitimate interest under art. 6 para. 1 lit. f GDPR, subject to a full legitimate interest assessment. Building on this recognition of conversational agents as a legitimate interest, an AI-powered credit advisory tool can, in principle, also be framed as a legitimate interest under art. 6 para. 1 lit. f GDPR.[275] A bank's legitimate interest may lie in improving its services, offering its customers tailored financial advice, and remaining competitive. This is also similar to the EDPB example, as both cases involve the development of AI-based tools to support users.[276]

In addition, it must be examined whether the processing of personal data is necessary to achieve the legitimate interests pursued. This will commonly be referred to as the "necessity test." The necessity test primarily examines two elements: (i) whether the processing is suitable to achieve the legitimate interest pursued, and (ii) whether the same objective could reasonably be achieved by less intrusive means.[277] In this regard, the processing of personal data for an AI tool for credit advice and lending can, in principle, be justified by legitimate interest, as the use of personal data is necessary to improve consumer decision-making and allows banks to provide tailored advisory services.

Furthermore, data minimization strategies should be implemented to restrict the amount of personal data included in training data sets. Irrelevant information should be filtered out prior to system development.[278] The sources used to train the AI systems should be thoroughly evaluated to ensure their relevance, adequacy, and suitability for generating accurate credit advice.

---

[272] See Der Landesbeauftragte für Datenschutz und Informationsfreiheit Baden-Württemberg 2024; EDPB, Guidelines 07/2020 on the concepts of controller and processor in the GDPR; EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models . For a detailed analysis of the position of regulatory authorities, see also Wenlong Li et al. 2022.

[273] Der Landesbeauftragte für Datenschutz und Informationsfreiheit Baden-Württemberg 2024; EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models.

[274] EDPB, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR, para. 17.

[275] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 69.

[276] EDPB, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR, paras. 28-30.

[277] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 72.

[278] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 51.

Measures should be taken to avoid the unnecessary collection of personal financial data. Moreover, any sources that could introduce bias or irrelevant information should be excluded.[279]

Where comparable results can be achieved through less intrusive methods those alternatives should take precedence. Where the personal data are employed to train the AI system, controllers are required to assess whether anonymization techniques can sufficiently eliminate the link to an identifiable person. Accordingly, controllers should implement the strongest form of de-identification that is compatible with the training purpose. Where anonymized data or synthetic data suffice for model training, the processing of pseudonymized data is neither necessary nor proportionate.[280] However, de-identification is not a binary exercise; rather, it is a process encompassing the spectrum between personal data and fully anonymized data.[281] If such techniques are not applied, controllers must provide clear justifications in line with the intended purpose.

Methodological choices related to training, such as the use of privacy-preserving techniques like differential privacy,[282] are particularly important in the credit advisory context to reduce the risk of re-identification or the making of inferences regarding financial information.[283] Technical and procedural safeguards should be in place to minimize the risk that personal financial data could be inferred from model outputs.

An overly strict application of the data minimization principle can compromise the integrity of the model, lead to bias, and result in discriminatory results. To address this, art. 10 para. 5 AI Act provides for a special rule regarding special categories of personal data, which is discussed in more detail below.[284] Accordingly, data sets should reflect the diversity of the population and be representative to ensure accurate and fair results.[285]

The legitimate interest of the controller must also override the fundamental rights and freedoms of the data subject. For this purpose, a balancing test must be carried out, weighing both interests against each other.[286] In particular, consideration must be given to the legitimate interest of the controller, the impact of the processing on the data subject (such as the type of data processed, the context of the processing, and other consequences of the processing), the legitimate

---

[279] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 50.

[280] Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Orientierungshilfe zu empfohlenen technischen und organisatorischen Maßnahmen bei der Entwicklung und beim Betrieb von KI-Systemen, Version 1.0, 9, 22; CNIL, Relying on the legal basis of legitimate interests to develop an AI system. Some providers consider synthetic data not always suitable for use, see Riechert and Bücken 2022, 17.

[281] On anonymization, see Article 29 Data Protection Working Party, Opinion 5/2014 on Anonymisation Techniques; Riechert and Bücken 2022, 17.

[282] Differential privacy is a technique that allows organizations to analyze or share data without revealing information about individuals. It adds controlled "noise" to the results so that patterns remain accurate but individual data cannot be identified. For more information, see Klarreich 2012; for more materials, see Harvard John A. Paulson School of Engineering and Applied Sciences.

[283] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 52.

[284] See below 4.2.3 Risk mitigation measures.

[285] Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Orientierungshilfe zu empfohlenen technischen und organisatorischen Maßnahmen bei der Entwicklung und beim Betrieb von KI-Systemen, Version 1.0, 11; Centre for Information Policy Leadership 2024, 7.

[286] EDPB, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR , para. 31.

expectations of the data subject in the context of their relationship with the controller, and the measures taken by the controller to mitigate the impact on the data subject.[287]

In addition to the right to data protection and privacy, the fundamental rights and freedoms of data subjects comprise other essential guarantees, including the prohibition of discrimination, as well as any interests of the data subjects that could be affected by the processing.[288] These interests may include financial interests (e.g., instances where creditworthiness assessments or AI-powered credit scoring influence access to loans or other financial services), personal interest (e.g., fair treatment in financial decision-making), or socioeconomic interests (e.g., access to affordable credit and financial inclusion).[289]

Against these risks, the potential benefits of AI-driven credit advice and lending must also be considered. The extent and nature of the expected benefits of processing, both for the controller and for third parties—such as end-users of the AI system or society at large—represent a significant consideration in this balancing test.[290] When designed with a consumer-centered approach, credit advice tools may provide consumers with clear and comprehensible information about financial options, strengthening their ability to make informed decisions. By providing tailored recommendations on suitable credit products, clarifying repayment obligations, and highlighting potential general and product-specific risks, an AI tool could enable access to qualified advice, improve financial literacy, and promote economic empowerment. For credit institutions, deploying such systems reduces administrative burdens and enables faster, more accurate credit decisions. At a broader societal level, credit advice tools encourage responsible lending and borrowing practices, helping to mitigate risks associated with over-indebtedness and default. Overall, such a consumer-focused AI tool would comply with the principles of the GDPR, as it would strengthen the arguments for legitimate interests as a legal basis. Conversely, a tool that nudges users toward a single predetermined outcome risks undermining fairness and distorting reasonable expectations, and it may ultimately fail the balancing test.

Additionally, for an AI-tool for credit advice and lending, the impact of personal data processing should be carefully assessed. As for the nature of the data, the tool processes mainly financial personal data, which are considered to be typically more private by the data subjects.[291] The scale of processing, the volume of data per individual, and the inclusion of vulnerable data subjects (e.g., financially inexperienced consumers) are particularly important factors to consider.[292] The potential consequences of such processing should also be considered, including the risk of discriminatory outcomes against individuals and the possibility of financial losses resulting from inaccurate or biased credit assessments.[293]

Furthermore, the assessment of data subjects' reasonable expectations requires particular attention. The information provided to data subjects can serve as an indicator of whether they can reasonably expect their personal data to be processed for the development and further-training of the AI model. However, depending on the circumstances of each case, privacy notices alone

---

[287] EDPB, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR, paras. 35-60.
[288] See , EDPB, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR, paras. 37-38.
[289] See EDPB, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR, paras. 37-38.
[290] CNIL, Relying on the legal basis of legitimate interests to develop an AI system.
[291] See EDPB, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR, para. 40.
[292] See EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, paras. 82-90.
[293] For more information, see below 4.2 Discrimination risks.

may not suffice.[294] In this context, the fact that data provided directly by the data subject—alongside external data sources such as credit databases—will be used for training purposes can, in principle, be regarded as foreseeable. However, this presupposes that the controller ensures transparency and safeguards the rights of the data subject. Data subjects should be clearly and comprehensively informed about the purposes and scope of such processing, as required by art. 5 and 12 GDPR. For further-training of the AI model, data subjects should be able to request that their inputs and outputs not be used, and retain the right to object under art. 21 GDPR. In addition, compliance may require additional measures, such as maintaining a reasonable interval between data collection and processing to ensure that consumers can effectively exercise their rights—especially the right to object—before the AI model is further-trained.

When the interests, rights, and freedoms of data subjects seem to outweigh the legitimate interests pursued by the controller or a third party, the controller may adopt mitigating measures to minimize the impact of the processing on the affected data subjects.[295] Mitigating measures are distinct from those obligations that the controller is legally required to adopt under the GDPR.[296] Mitigation measures may include pseudonymization, masking, or substituting data with synthetic values in training sets when the exact content is not essential for the model's functioning.[297] Additional safeguards to strengthen individuals' control could involve providing an unconditional opt-out prior to processing.

Furthermore, controllers of a credit advisory tool must ensure that the AI tool for credit advice and lending is robust to protect consumers' financial data. This includes verifying that the AI model has been designed according to instructions and supporting it with precise technical governance and rigorous testing for state-of-the-art attacks.[298] Controllers must also maintain comprehensive documentation of all processing activities, including training and updates, to demonstrate GDPR compliance, mitigate re-identification risks, and ensure that the model delivers reliable credit recommendations.[299]

The training or further-training of AI models using inputs or outputs constitutes further processing under the GDPR and is subject to the purpose limitation principle (art. 6 para. 4 in conjunction with art. 5 para. 1 lit. b GDPR). Art. 6 para. 4 GDPR sets out a non-exhaustive list of factors to evaluate whether further processing is compatible with the collection purpose. These factors are particularly relevant where consumer data initially gathered for credit advice is subsequently used for further-training the AI tool for credit advice and lending. Further-training done to refine the same credit advice tool may be defensible, but reuse for other or general purpose AI (GPAI) systems would not meet the balancing test.[300]

---

[294] See EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 91-95.
[295] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 96.
[296] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 97.
[297] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 101.
[298] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, paras. 54-55.
[299] EDPB, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, para. 56.
[300] In this direction for reusing data on an individual's credit behavior to train a credit scoring system, Almada 2024, 100.

If the erasure of personal data is requested pursuant to art. 17 GDPR, all relevant data, including the inputs and outputs used by the AI, must be completely erased.[301] If the AI model contains the deleted data, it may need to be retrained without that data. Incorrect personal data in training data must also be corrected upon request, particularly for inputs and outputs used for further-training.[302]

4.1.3.2. Data protection impact assessment requirement

The development and operation of AI systems can pose significant risks to the rights and freedoms of data subjects, given the nature, scope, and purposes of the processing. Where processing is likely to result in a high risk, a data protection impact assessment (DPIA) is required under art. 35 GDPR. Depending on the outcome of the DPIA, controllers must implement appropriate technical and organizational measures to ensure compliance and to mitigate the identified risks.

An AI tool for credit advice—even when not connected to lending—falls within the scope of "likely high-risk processing" and is therefore subject to a DPIA. According to the EDPB, processing is considered likely to result in a high risk where it involves evaluation or scoring, including profiling and prediction, based on personal aspects such as a data subject's economic situation, reliability, behavior, health, personal preferences, or other characteristics.[303] AI tools that provide credit advice clearly fall into this category.

The EDPB further clarifies that automated decision-making about data subjects which produces legal effects or similarly significant impacts (art. 35 para. 3 lit. a GDPR) also requires a DPIA.[304] Consequently, an AI tool for credit advice and lending not only falls under the provisions of art. 22 GDPR but also triggers a mandatory DPIA pursuant to art. 35 GDPR. In this respect, an AI tool for credit advice and lending is not only considered a high-risk system under the AI Act but also constitutes high-risk data processing within the meaning of art. 35 GDPR, thereby requiring a mandatory DPIA. The fundamental rights impact assessment envisaged under art. 27 AI Act can, in practice, be integrated into the DPIA process, thus allowing controllers to meet both regulatory requirements in a coordinated manner.[305]

---

[301] Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Orientierungshilfe zu empfohlenen technischen und organisatorischen Maßnahmen bei der Entwicklung und beim Betrieb von KI-Systemen, Version 1.0, 23.

[302] Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Orientierungs-hilfe zu empfohlenen technischen und organisatorischen Maßnahmen bei der Entwicklung und beim Be-trieb von KI-Systemen, Version 1.0, 22; Konferenz der unabhängigen Datenschutzbehörden des Bundes und der Länder, Orientierungshilfe der Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder vom 6. Mai 2024, Künstliche Intelligenz und Datenschutz, paras. 26-28. Such erasure is often not feasible in the context of complex self-learning AI systems. Even if this were technically achievable, it could be argued that doing so would disadvantage customers who continue to rely on the AI-based service, see Buck-Heeb 2023, 1625 (1636).

[303] Working Party, „Guidelines on Data Protection Impact Assessment (DPIA) and determining whether processing is ‚likely to result in a high risk' for the purposes of Regulation 2016/679", 9.

[304] Working Party, „Guidelines on Data Protection Impact Assessment (DPIA) and determining whether processing is ‚likely to result in a high risk' for the purposes of Regulation 2016/679", 9.

[305] Hacker 2024, 22.

4.1.4. Sanctions and damages

Violations of the GDPR primarily result in fines. For violations of the data protection principles pursuant to arts. 5, 6, 7, or 9 GDPR, or of the rights of the data subject under arts. 12 to 22 GDPR, an administrative fine of up to EUR 20,000,000 or up to 4 percent of the worldwide annual turnover may be imposed, pursuant to art. 83 para. 5 lit. a and b GDPR.

Additionally, data subjects may claim damages under the GDPR. A claim for damages under art. 82 GDPR requires the fulfillment of three cumulative elements: breach of the GDPR, the existence of damage, and a causal link between the breach and the damage. The CJEU has clarified that all three conditions must be satisfied; a mere breach of the GDPR, without demonstrable damage, does not in itself give rise to constitute a claim for damages.[306]

Pure economic loss falls in principle within the scope of art. 82 GDPR. However, where the loss is too remote, arising only as a distant consequence of the risk, it may be excluded from damages on the ground of insufficient causation.[307] Importantly, in its UI judgment, the CJEU rejected the introduction of any "seriousness threshold" for the harm.[308] Therefore, the severity of the damage is not required in order to claim compensation for breach of the GDPR provisions.

Art. 82 GDPR allows the controller to exempt itself from liability. In its *VB* judgment, the CJEU held that controllers could exempt themselves from liability under art. 82 para. 3 GDPR only by proving they were "not in any way responsible" for the harmful event.[309] Accordingly, a controller cannot exempt itself from liability under art. 82 para. 3 merely because damage was caused by a third-party access; it must demonstrate full compliance with GDPR obligations, especially under art. 5 para. 1 lit. f and arts. 24 and 32 GDPR.[310]

In its VB ruling, the CJEU clarified that a data subject's well-founded fear of potential misuse of personal data may itself constitute non-material damage, though it falls upon national courts to assess whether that fear is objectively justified in the circumstances of the case.[311] In its ruling, the LG Bayreuth found violations of arts. 15 and 22 GDPR in connection with the establishment of a credit score by a credit database. The court described non-material damage resulting from a data protection violation as "the feeling of powerlessness of a person subject to automated data processing who, moreover, cannot be sure which of his data speaks for or against him in what way and how he should behave."[312] In this context, the fact that the loan application would probably have been rejected anyway is irrelevant.[313] The LG Bamberg found that there was a violation of art. 22 GDPR, for which the court awarded the plaintiff compensation for non-material damages.[314]

[306] CJEU, Judgment of 4 May 2023 – C-300/21 (*Österreichische Post* AG), paras. 32- 33.
[307] Li 2023, 335 (341).
[308] CJEU, Judgment of 4 May 2023 – C-300/21 (*Österreichische Post* AG), para. 51.
[309] CJEU, Judgment of 14 December 2023 – C-340/21, para. 57; GDPR Recital 146.
[310] CJEU, Judgment of 14 December 2023 – C-340/21, paras. 71–74.
[311] CJEU, Judgment of 14 December 2023 – C-340/21, paras. 84-85.
[312] LG Bayreuth, Judgment of 29 April, 2025 - 31 O 593/24, para. 45.
[313] LG Bayreuth, Judgment of 29 April, 2025 - 31 O 593/24, paras. 45-50.
[314] LG Bamberg Judgment of 26.03.2025 - 41 O 749/24 KOIN, paras. 34, 36.

4.2. Discrimination risks

From the perspective of anti-discrimination law, the use of AI systems holds a fundamental potential to reduce preference-based discrimination. In credit advice and lending processes, bank employees can be influenced by unconscious biases or by personal preferences toward individuals having certain ethnic backgrounds or a particular gender, which may compromise the objectivity of the advice provided or the credit decision. The use of an AI tool minimizes this risk, as credit advice and lending would be based on neutral, factual criteria and would exclude both conscious and unconscious biases from the process.[315]

However, to fully realize this potential, it is necessary to mitigate the discrimination risks that are inherent in every AI system.[316] Biases in the data sets, especially under- or overrepresentation of certain groups in the training data set can lead to biases in the AI-supported advice and thus in the credit recommendation. This could result in discrimination.[317]

4.2.1. Prohibition of discrimination

The prohibition of discrimination in private law is codified in §§ 19 et seq. AGG. § 19 of the German Equality Act (AGG) prohibits discrimination on the grounds of "race"[318] or ethnic origin, gender, religion, disability, age, or sexual identity in the establishment, implementation, and termination of mass transactions and obligations similar to mass transactions (§ 19 para. 1 no. 1 AGG) and insurance contracts (§ 19 para. 1 no. 2 AGG). For other private law relations (§ 19 para. 2 in conjunction with § 2 para. 1 no. 5-8 AGG), only racist discrimination and discrimination based on ethnic origin are prohibited. Thus far, not all credit agreements fall within the scope of the prohibition of discrimination relating to mass transactions and obligations similar to mass transactions.[319]

Nevertheless, art. 6 CCD2 prohibits discrimination based on nationality or place of residence or on any of the grounds listed in art. 21 CFR when applying for and concluding credit agreements. These include gender, "race", ethnic origin, religion, belief, disability, age, sexual orientation, color, social origin, genetic features, language, political or any other opinion, membership of a national minority, property, and birth. Therefore, the prohibition of discrimination in consumer credit agreements will be expressly regulated after the CCD2 is implemented into German law.[320]

Lenders remain free to set different conditions for access to credit if these are duly justified by objective criteria (art. 6 subpara. 2 CCD2). The draft regulation transposing the CCD2 into German law lists various securities or terms as examples of different conditions.[321] However, the objective criteria according to which the different conditions can be duly justified are not

[315] See Johnson et al. 2019, 504 et seq.; Orwat 2019, 22; Kleinberg et al. 2018, 120; A U.S. study shows that the rejection rate for digital credit applications from African American and Latin American consumers is lower than for traditional in-person applications, s. Bartlett et al. 2019, 21 et seq.
[316] For more information, see Damar 2021.
[317] See recital 58 of the AI Act.
[318] The use of the term "race" in international conventions as well as in European and national legislation is scientifically inaccurate and legally inappropriate. This term creates the impression that there are evolutionarily and biologically distinct human races. Furthermore, the term carries historical connotations. For these reasons, the term is placed in quotation marks in this work whenever a legal provision uses it. In other cases, the more appropriate terminology of "racist discrimination" is preferred.
[319] For more information, see Damar-Blanken et al. 2023, 79 et seq; Damar-Blanken 2024, 425 (427 et seq.).
[320] The German legislature intends to implement the prohibition of discrimination in Art. 6 CCD2 through the new Art. 247a § 3 of the EGBGB-new, see BT-Drs. 21/1851, 130.
[321] BT-Drs. 21/1851, 148.

mentioned. Since the prohibition of discrimination in the CCD2 refers to the principle of non-discrimination,[322] existing provisions in this regard are applicable by analogy, namely § 20 para. 1 AGG. Accordingly, different treatment based on certain personal characteristics[323] can be justified by an objective reason. An objective reason for different treatment exists if such treatment serves a legitimate aim and is necessary and proportionate for achievement of that aim. The arbitrary use of personal characteristics, therefore, does not constitute an objective reason.[324] Furthermore, whether an objective reason exists must always be examined on a case-by-case basis.[325] For example, a reduction in income due to retirement is an important criterion for recommending a suitable credit agreement and for assessing creditworthiness. However, an objective reason does not exist if an AI system, without any further differentiation, bases its decision on the age of the consumer and, without considering the expected income level, recommends an unsuitable credit agreement or rejects the credit application.[326]

The comprehensive prohibition of discrimination in the CCD2 is also applicable to an AI tool which combines credit advice with lending. This is because, in this case, the advisory service is provided during the initiation of the credit agreement (§§ 311 para. 2, 241 para. 2 BGB). In addition to the imposition of fines,[327] a breach of the pre-contractual ancillary obligation to take account of the rights, legal interests, and other interests of the other person results in claims for damages under §§ 280, 311 para. 2, and 241 para. 2 BGB.[328] General liability principles, such as regarding vicarious liability (§§ 276, 278 BGB) and the presumption of fault (of the bank) (§ 280 para. 1 sentence 2 BGB), remain applicable if the AI tool for credit advice and lending discriminates against consumers. This also applies if the bank has the AI tool developed by a third party and then uses it for business relationships with consumers.[329]

The AI Act does not contain any provisions specific to anti-discrimination law . Liability issues are not regulated at all in the AI Act. The liability issues are, therefore, completely independent of the classification of AI systems as high-risk. Nevertheless, the AI Act complements existing European anti-discrimination law by providing regulatory measures regarding the quality of data sets used in the development of AI systems and by prescribing testing obligations.

Nevertheless, the use of AI systems in the financial sector is subject to financial supervisory requirements. The general governance requirements of § 25a para. 1 KWG also apply to AI systems. Therefore, banks must clearly define responsibilities regarding AI systems, train and raise awareness among employees entrusted with the development and use of AI systems, and establish review processes to identify and eliminate any discrimination.[330]

[322] See recitals 29 and 31.
[323] § 20 para. 1 AGG refers to religion, disability, age, sexual identity, and gender.
[324] Thüsing in: Säcker et al. 2023, AGG § 20 para.14.
[325] BT-Drs. 16/1780, 43.
[326] For more information, see Damar-Blanken et al. 2023, 54 et seq.
[327] Art. 247 a § 3 EGBGB-new.
[328] BT-Drs. 21/1851, 123.
[329] See Grundmann in: Säcker et al. 2023,BGB § 278 para.1 et seq.; Lorenz in: Hau and Poseck 2025, § 278 para. 11.
[330] BaFin 2024.

4.2.2. Risks

The risk of discrimination may arise mainly from the variables that have been predefined in the algorithm. During the training of an AI system, for example, characteristics on the basis of which discrimination is prohibited can be predefined as variables. An AI tool for credit advice and lending that incorporates factors such as nationality, residence, or gender into its decision-making processes is to be classified as discriminatory. In practice, however, such direct discrimination will not pose a great risk, since the preventive measure is quite simple: omitting protected characteristics as a predefined variable.[331]

In relation to the predefined variables, the risk of indirect discrimination is significantly higher. Indirect discrimination occurs when seemingly neutral regulations, criteria, or procedures place individuals at a particular disadvantage compared to others because of a protected characteristic.[332] During the development of the AI system, a supposedly neutral proxy criterion may be used, which, however, has an exclusionary effect on certain social groups when applied by the AI system.[333] A US study, for example, found that AI systems replaced the poorly predictable variable of income growth with the proxy criterion of high school graduation. Because the high school graduation rate was lower among African- and Latino-American groups than among other groups, these groups' credit applications were either rejected or higher interest rates were charged for the credit agreement because they were classified as a higher-risk group.[334] It is well known that the development of income is a key element in credit advice and lending, especially when it comes to longer-term credit, such as mortgage loans. If, for example, the AI tool for credit advice and lending uses high school graduation as a variable for assessing the development of income, this could have a similar negative effect on certain social groups.

Furthermore, discriminatory risks arise from the data sets. Discriminatory biases in a training data set are, for instance, directly reflected in the outputs of AI systems. There is a risk that the AI system will detect statistical correlations between protected characteristics and negative behavior. A key reason for this is the underrepresentation of a group having a positive correlation or the overrepresentation of a group having a negative correlation in the training data set (*sample bias*).[335] This can be due to either pre-existing bias and prejudices (*historical/social bias*) or the fact that certain products or services are not used at all or only to a lesser extent by certain groups.[336] For example, young people may be underrepresented in credit-relevant data sets because the proportion of young individuals who are (still) economically inactive is higher than that of older individuals.[337] This may cause an AI tool for credit advice and lending to assign young people to a higher risk category. A similar outcome may also occur in cases where several personal characteristics are combined. If, for example, single mothers are underrepresented in the training data set for an AI system for creditworthiness assessment, this could lead to negative credit

---

[331] See Engelhardt and Teuber 2025, 218 (227).
[332] See § 3 para. 2 AGG.
[333] See also Data Protection Authority of Belgium, General Secretariat, Artificial Intelligence Systems and the GDPR – A Data Protection Perspective, 9; van Bekkum 2025, 2. See the proposal for a careful evaluation, Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Vorschläge für Handlungsempfehlungen an die Bundesregierung zur Verbesserung des Datenschutzes bei Scoringverfahren, Stellungnahme vom 11. Mai 2023, 11.
[334] Bartlett et al. 2019, 4 et seq.; see also Orwat 2019 , 49 et seq.
[335] Also called *representation bias*, see Lauscher and Legner 2022, 367 (371).
[336] Orwat 2019, 79 et seq.; Barocas and Selbst 2016, 671 (681 et seq.); Hassani 2021, 239 et seq.; Calders and Žliobaitė 2013, 43 (47); Langenbucher 2022, 364; Sargeant 2023, 1295 et seq.
[337] Roggemann et al. 2024, 66.

decisions when a single mother applies for a credit.[338] If, on the other hand, certain groups are overrepresented in a training data set for an AI system designed to detect credit fraud because the majority of that group's credit applications were classified as fraudulent in the past due to personal prejudices, this bias will be reflected in the system's outputs.[339]

A data set can also be specifically created with protected characteristics as statistical variables that are to be recognized. For example, protected characteristics are deliberately included in training data sets as variables to be recognized by the AI system. There is a training data set called the "South German Credit Dataset" that has been made available online for research purposes.[340] This data set is intended to be used in training AI systems for creditworthiness assessments. The composition of this data set results in the AI system recognizing a total of 20 variables and developing a creditworthiness assessment model based on them.[341] Analysis of the training data set in connection with the various machine learning techniques shows that the variables housing type, marital status, gender, account balance, and existing loans are very important in deciding creditworthiness. Job experience and employment situation, on the other hand, are rated only as important.[342] It is positive that the variable "guest worker" does not play a significant role. However, this result makes it clear that the training data set has taught the AI system to include the characteristic of gender in the creditworthiness assessment. The system thus directly links to a protected characteristic. According to another study using the same training data set, a credit application submitted by a female migrant worker to purchase a car is highly likely to be rejected.[343] In this case, the system links not just to one but two protected characteristics, namely gender and ethnic origin.

Discrimination risks can also arise from the input of new data. It is well known that AI systems can be designed to learn independently from new data input during operation. Consequently, an AI system can be initially trained using a non-discriminatory data set and then put into operation, only to have biases potentially arise from new data input during operation.[344]

4.2.3. Risk mitigation measures

Discriminatory results from AI systems are associated not only with civil and regulatory liability risks, but also with reputational risks.[345] Therefore, it is important to ensure that an AI tool for credit advice and lending functions fairly and in a non-discriminatory way. In addition to the general requirements of the AI Act for high-risk AI systems,[346] further measures are therefore necessary.

First of all, it must be ensured that the specified variables do not result in direct or indirect discrimination. Therefore, so as to avoid direct discrimination, the protected characteristics of

---

[338] BaFin 2024.
[339] See EIOPA, Consultative Expert Group on Digital Ethics in Insurance 2021, 28 et seq.
[340] Available at https://archive.ics.uci.edu/ml/datasets/South+German+Credit (August 29, 2025).
[341] The variables included in the data set are: account balance, duration of the applied credit, payment history of the applicant based on past and parallel credit relationships, purpose of the credit, credit amount, savings account balance, length of employment with the current employer, credit repayment amount, marital status and gender, guarantors, length of residence at current address, assets, age, housing type, credit history, occupation, persons in need of care, landline connection, guest worker, credit risk.
[342] Trivedi 2020.
[343] Pedreschi et al. 2013, 100 et seq.
[344] See Scheer 2019, 12 et seq.; Lauscher and Legner 2022, 367 (373).
[345] BaFin 2021, 8.
[346] See above 3.3 Obligations under the AI Act.

art. 6 CCD2 in conjunction with Art. 21 CFR may not be used as variables.[347] Furthermore, neutral variables must be examined to determine whether they have negative effects on specific social groups in order to prevent indirect discrimination. Due to dynamic social developments, these assessments must be conducted at regular intervals.

Additionally, the anti-discriminatory quality of data sets must be ensured. This primarily involves conducting quality control if the data set is purchased.[348] Furthermore, training-, validation-, and test data sets must be examined for potential biases that could lead to prohibited discrimination (Art. 10 para. 2 lit. f AI Act). The AI Act does not explicitly specify evaluation criteria for determining whether data sets are fair.[349] For an AI tool for credit advice and lending, art. 6 CCD2 in conjunction with art. 21 CFR is relevant. Therefore, it must be avoided that the data sets contain biases that directly link to the protected characteristics or have a negative impact on groups with the protected characteristics.

Initial approaches for avoiding discriminatory risks involved removing protected characteristics from the training data set. At first glance, this step seems like an obvious and simple measure. In practice, however, the omission of protected characteristics often results in indirect discrimination. Even if information such as ethnic origin or gender is not taken into account, the AI system can use proxy characteristics—such as first and last name, place of birth, or place of residence—to draw conclusions and reproduce discriminatory patterns. For example, a foreign name or a place of birth abroad infers a foreign origin with high probability. Likewise, people from certain ethnic groups often live predominantly in certain parts of the city, and first names are usually clearly associated with a gender. The mere exclusion of personal data on protected characteristics therefore does not prevent discrimination (*omitted variable bias*).[350]

The processing of sensitive personal data is currently prohibited in principle by Art. 9 para. 1 GDPR. Art. 10 para. 5 AI Act permits the collection and processing of such data under certain circumstances, as long as it is strictly necessary for the monitoring, detection, and correction of biases associated with high-risk AI systems.[351] Appropriate safeguards must be taken to protect the fundamental rights and freedoms of natural persons, including technical restrictions on further use and state-of-the-art security and data protection measures, such as pseudonymization or encryption if the intended purpose cannot be achieved using synthetic or anonymized data. Therefore, it must first be examined whether the purpose of compiling a non-discriminatory data set can be achieved using synthetic or anonymized data.

At this point, it is important to note a shortcoming in the AI Act. The exception to the processing of sensitive data in art. 10 para. 5 AI Act applies exclusively to providers and is limited to training-, validation-, and test data sets. This regulation is particularly unfortunate if lenders do not themselves develop their AI systems or commission their development, but instead acquire and deploy them, thus acting merely as deployers. As already explained, discrimination can result from algorithmic design decisions or the use of the AI system.[352]

---

[347] According to Interview K1, these characteristics are not used as parameters.
[348] See Scheer 2019, 12; Lauscher and Legner 2022, 367 (371); Feldkamp et al. 2024, 60 (94 et seq.).
[349] See Legner 2024, 426 (428 et seq.).
[350] Barocas and Selbst 2016, 721 et seq.; Johnson et al. 2019, 510; Žliobaitė and Custers 2016, 185, 190 et seq.; Orwat 2019, 81 et seq.; EIOPA, Consultative Expert Group on Digital Ethics in Insurance 2021, 30; see also Kleinberg et al. 2018, 154 et seq.; Beck et al. 2019, 17; Calders and Žliobaitė 2013, 53 et seq.
[351] Der Landesbeauftragte für Datenschutz und Informationsfreiheit Baden-Württemberg 2024; van Bekkum 2025, 2; see also Hacker 2024, 23; Centre for Information Policy Leadership 2024, 3.
[352] van Bekkum 2025, 9 et seq.

The natural persons entrusted with human oversight must have the necessary competence, training, and authority to perform this task (art. 14 para. 4 lit. b AI Act). Their training must, in particular, counteract any potential tendency toward automatic or excessive reliance on the output produced by a high-risk AI system (*automation bias*), especially when high-risk AI systems provide information or recommendations on the basis of which natural persons make decisions.[353] An interdisciplinary approach is recommended for an AI tool for credit advice and lending.[354] Therefore, the individuals responsible for supervising the AI tool should not only have knowledge in terms of both the AI tool as well as credit advice and lending, but they should also be aware of the risks of discrimination.

Last but not least, the outputs of the AI system must be regularly reviewed for risks of discrimination (art. 9 para. 2 AI Act).[355] According to BaFin, quantitative methods based on statistical comparisons (e.g., the proportion of positive credit decisions in favor of women versus men) are regularly used for this purpose.[356] However, such a review, which is based on a group-based fairness metric[357] cannot detect individual discrimination. BaFin therefore considers further measures necessary,[358] e.g., the use of individual or causality-based fairness metrics.[359] It is thus recommended to involve fairness experts in the review.[360] Furthermore, such a review can be implemented through the mechanism of mystery shopping. Specifically, by using trained test subjects who act as consumers, data can be collected and subsequently evaluated.[361]

4.3. Manipulation risk

4.3.1. Applicable regulations

AI systems carry the risk of unduly impairing consumer autonomy. AI systems should primarily be designed to help individuals make more informed and qualitatively better decisions in line with their own goals. However, there is a risk that they may deliberately control human behavior through mechanisms that are difficult to detect. This is particularly the case when unconscious processes are exploited, resorting to practices such as pressuring or conditioning, which can lead to a significant impairment of human autonomy.[362] The particular risk of AI systems lies in their ability to adapt their strategies of influence to the personal characteristics and vulnerabilities of individuals.[363] According to Art. 5 para. 1 lit. a AI Act, such manipulation practices are prohibited.

Such manipulation practices can primarily include dark patterns. Dark patterns are misleading design methods that exploit human psychological mechanisms to pressure consumers into making decisions they would not normally take.[364] In practice, the following forms of dark patterns

---

[353] For more information, Burchner in: Schefzig and Kilian 2025, KI-VO Art. 14 para. 53 et seq.; Laux and Ruschemeier 2025; Langenbucher 2022, 373.
[354] See Scheer 2019, 37.
[355] Cf. art. 174 lit. d CRR.
[356] BaFin 2024.
[357] For more information, Meding 2025, 51 (52).
[358] BaFin 2024.
[359] Meding 2025, 51 (52 et seq.); for more information see Sargeant 2023, 1305.
[360] Meding 2025, 51 (53).
[361] Damar 2021, 41.
[362] Hochrangige Expertengruppe für Künstliche Intelligenz 2019, para. 64.
[363] Raue in: Schefzig and Kilian 2025, KI-VO Art. 5 para. 26.
[364] Finance Watch 2025; see Art. 16e of the Consumer Rights Directive (Directive 2011/83), which was added by Directive 2023/2673 and will enter into force on 19 June 2026, for more information see Grochowski 2024. The implementation of Directive 2023/2673 into German law is still pending.

are particularly common: creating a false sense of urgency, concealing details about risks, and repeatedly asking consumers to select the same option even after they have already rejected it.[365] For example, impermissible behavioral influence occurs when an AI tool for credit advice highlights an option among recommended credit agreements by offering more favorable interest rates for that option or when an ancillary product is offered at more favorable terms if the credit application is submitted in the next few minutes.[366] Dark patterns can be used in conjunction with microtargeting so as to result in undue influence. Microtargeting involves targeted communication methods that categorize consumers into different groups, thus targeting specific characteristics of a person in order to influence the (purchase) behavior in an undue manner.[367] For example, an AI tool for credit advice and lending could classify a person as a single mother and stoke their fears in order to sell them unnecessary financial products as by-products.

Subliminal influences that lie outside a person's conscious awareness are also prohibited. This type of manipulation occurs through "subliminal components such as audio, image, [or][368] video stimuli that persons cannot perceive, as those stimuli are beyond human perception" (recital 29 AI Act). For example, if smiling emojis are embedded in photos of a hotel without being actively perceived, people are more likely to choose that hotel.[369] A similar scenario is also imaginable in connection with recommendations for alternative credit agreements: if the AI tool for credit advice and lending were to use a similar technique in order to highlight in its recommendations the bank's preferred alternative and thereby unduly influence the decision of the consumer, this would constitute a manipulation prohibited by art. 5 para. 1 lit. a AI Act.

Furthermore, distraction techniques can lead to undue influence. AI systems can exploit cognitive biases or vulnerabilities to direct attention to certain content, thereby causing people to perceive primarily that content and ignore other content,[370] e.g., when an AI tool for credit advice and lending were in any way to emphasize one option over others when recommending different credit agreements in order to undermine the comparison of different alternatives. Another example would be if the AI tool, just as in human-to-human advice sessions, made a determination regarding the consumer's level of financial knowledge and guided the advice process to the advantage of the lender and not to the advantage of the consumer.[371]

Art. 5 para. 1 lit. a AI Act prohibits such manipulation practices when they would change the behavior of a person or a group of persons, or would be sufficiently likely to cause significant harm. Adverse effects on financial interests, for example, constitute harm,[372] such as entering into an economically disadvantageous contract.[373] However, mere harm is not sufficient for the provision to apply; significant harm or the likelihood of significant harm must exist. According to the EU Commission's guidelines, determining significant harm is fact-specific and requires a careful consideration of the individual circumstances of each case.[374]

---

[365] European Commission 2022.
[366] Interview V1.
[367] For more information, Ebers in: Ebers et al. 2020, § 3 para. 105 et seq.
[368] This word is absent from the English version of the AI Act but is present in the German version.
[369] Heinze and Engel 2025, 19.
[370] Raue in: Schefzig and Kilian 2025, KI-VO Art. 5 para. 25.1.
[371] Interview V3.
[372] Recital 29; European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 91.
[373] Raue in: Schefzig and Kilian 2025, KI-VO Art. 5 para. 39; Heinze and Engel 2025, 19 (22).
[374] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 91.

In assessing the significant harm or the likelihood of significant harm, different points must be considered. These include, above all, the severity, context, cumulative effects, scope, intensity, duration, and reversibility of the harm, as well as the vulnerability of the person or group of persons.[375] For consumers in general, and for credit advice in particular, it must be taken into account that consumers are typically less informed about individual credit products than lenders, and credit advice must be provided in the best interests of the consumer. Significance can also lie in the fact that a large number of people are affected.[376] An AI tool for credit advice and lending would be used in the retail business; this would result in not just individual consumers, but a large number of consumers being affected by manipulative practices. Therefore, if consumers are burdened with a credit agreement featuring terms that are disadvantageous to them as a result of an AI tool's manipulative techniques, significant damage could have already occurred.

The prohibition of art. 5 para. 1 lit. a AI Act does not require that the harm be inflicted purposefully.[377] It is possible that the AI system learns such manipulation techniques from the training data set or through training procedures. AI systems can even learn to temporarily stop the inappropriate behavior and resume it later. This could render external human overview ineffective, as the AI system could learn when it is being supervised.[378]

Violation of the prohibition stipulated in Art. 5 para 1 AI Act primarily results in the imposition of a fine. Art. 99 para. 3 AI Act provides for the highest fine under the AI Act.[379] Fines of up to 35,000,000,- EUR or up to 7 percent of the total worldwide annual turnover of the preceding financial year, whichever is higher, can be imposed.

Furthermore, AI-based manipulation falls within the scope of the UWG.[380] Art. 5 para. 8 AI Act provides that the existing prohibitions under European law remain unaffected. In this respect, the Unfair Commercial Practices Directive, and consequently the UWG as its national implementation, remain applicable (recital 29 AI Act). According to § 3 para. 1 UWG, unfair commercial practices are prohibited, which also include material distortion of the economic behavior of consumers (§ 3 para. 2 UWG).[381] § 2 para. 1 no. 11 UWG defines material distortion as "a commercial practice to appreciably impair a consumer's ability to take an informed decision, thereby causing the consumer to take a transactional decision which he or she would not have taken otherwise."[382] In this respect, the terms in art. 5 para. 1 lit. a AI Act and § 2 para. 1 no. 11 UWG largely overlap. For the UWG to be applicable, a business decision by the consumer is required,[383] which is present in the case of a credit application based on a recommendation. In this respect, claims for the

[375] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 92.
[376] Heinze and Engel 2025, 19 (22).
[377] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), paras. 69 and 73.
[378] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 73.
[379] Heinze and Engel 2025, 19.
[380] Implementation of the Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council ('Unfair Commercial Practices Directive'), OJ L 149/22 (hereinafter: UCPD).
[381] See art. 5 para. 1 and 2 UCPD.
[382] See Art. 2 lit. e UCPD.
[383] Heinze and Engel 2025, 19 (22).

removal or cessation of AI-based manipulation under § 8 UWG as well as a claim for damages under § 9 para. 2 UWG are possible.

Finally, it should be emphasized that neither the AI Act nor the UWG preclude lawful business practices undertaken for the purpose of advertising and persuading consumers.[384] Companies may continue to use advertising and marketing methods that can lawfully influence consumers' perceptions of products and consumer behavior.[385] The distinction between impermissible and permissible practices lies in the fact that the consumer's ability to make informed and autonomous decisions must not be impaired.[386] According to the European Commission's guidelines, for example, an AI-supported consideration of the consumer's age and socioeconomic situation does not automatically constitute manipulation in the context of credit agreements.[387] For an AI tool for credit advice and lending, this information is required in any event for the exploration and identification of suitable credit agreement options and for a creditworthiness assessment. However, if the AI tool exploits this information, for example, to recommend disadvantageous credit agreements to older people solely based on their age and without taking further financial factors into consideration, it could violate the prohibition in Art. 5 para. 1 lit. a AI Act.

4.3.2. Risk mitigation measures

To mitigate the risk of manipulation, consumer autonomy must first be respected. In this context, practices intended to impair consumers' decision-making capacity in a potentially harmful or manipulative manner must be strictly avoided.[388] Therefore, the recommendation made above is reiterated: the AI tool must provide all relevant information on credit agreement alternatives in a neutral manner so as to allow for informed decision-making.

Additionally, prevention and control mechanisms must be implemented to monitor the operation of the AI system, including with regard to the risk of manipulation.[389] These include measures to identify and mitigate the risk of undue influence on consumer behavior and thus unintentional harm. It should be noted that the AI systems are capable of detecting human evaluation and refraining from undue behavior during human supervision.[390] Therefore, it must be ensured that the control mechanisms extend beyond the human supervision provided by the lender. In this context, it is recommended to monitor the AI tool also by means of mystery shopping.[391]

---

[384] See recital 30 AI Act, recital 6 UCPD.
[385] In this context, however, the requirements of the MCD and the CCD2 on the advertising and marketing of credit agreements must be complied with, see art. 10 et seq. MCD and art. 7 et seq. CCD2.
[386] See recital 6 UCPD; European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 127 et seq.
[387] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 133.
[388] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 95.
[389] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 95.
[390] European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), para. 73.
[391] Damar 2021, 41.

5. Conclusion

Credit advice represents a central component of the relationship between banks and consumers. Its primary purpose is to balance the existing information asymmetries in the financial market and enable customers to make informed decisions. While there is generally no legal obligation to provide credit advice, clear minimum standards apply according to § 511 BGB (or alternatively § 511 BGB-new) as well as under the relevant European regulations whenever credit advice is provided. These provisions relate to pre-contractual information obligations and the necessary steps for the provision of the advisory service: First, personal and financial data is collected during the initial exploration to determine the needs, preferences, and goals of the consumer. This is followed by an assessment of whether and which credit products from the lender's product range are suitable. Finally, the client receives a specific recommendation that takes their individual situation into account. The goal of each advisory process is always to provide a recommendation based on the individual needs, goals, and financial circumstances of the consumer, and the process is conducted in their best interest. Finally, the minimum standards include the duty of disclosure which was developed by case law. The consumer is to be provided comprehensive information about the risks and disadvantages of any recommended credit agreements. Violations of these minimum standards may result in claims for damages.

Even an advisory process that is based exclusively on minimum legal standards is very time-consuming. In addition, traditional banks, including cooperative banks, are increasingly exposed to competition from FinTechs and Neobanks. Against this backdrop, AI-based systems are gaining importance. They promise more efficient and standardized provision of services in general and, at the same time, a consumer-oriented approach to credit advice in particular. Especially younger customers show a higher acceptance of such digital offers.

The software applications currently used in consumer credit practice regularly combine credit advisory and lending functions. For this reason, it is expected that an AI tool for credit advice will not be used solely for advisory purposes but also for lending, thereby combining credit advice and lending. An autonomous AI system can thus facilitate low-threshold access to credit advice and credit, but it also entails significant risks, particularly with regard to data protection, discrimination, and manipulation.

The use of AI is legally regulated by the European AI Act, which came into force in August 2024 and which establishes uniform rules for the development and use of AI systems. The AI Regulation classifies systems for credit assessment and creditworthiness assessment as high-risk AI systems. This imposes comprehensive requirements on providers and operators, including strict specifications regarding transparency, data quality, governance, human oversight, and technical documentation. The goal is to ensure security and compliance throughout the entire system lifecycle.

Data protection law is also particularly important. The GDPR establishes clear principles, such as data minimization, accuracy, and purpose limitation. Personal data may only be processed by an AI tool for credit advice and lending to the extent necessary for the advice and lending process. Fully automated decision-making and profiling are, save for narrow exceptions, prohibited under art. 22 GDPR; one of these exceptions is the explicit consent of the data subject. The question always remains whether consumers actually have a free choice and to what extent they are informed about the processing of their data. The application of the CCD2, GDPR, and AI Act is intended to create transparency, for example through the right to have automated decisions explained.

A significant risk associated with AI-supported credit advice and lending lies in discrimination. An explicit prohibition of discrimination in the credit sector arises from art. 6 CCD2. Discrimination can arise, in particular, from biased training datasets. To prevent this, data sets need to be thoroughly examined, and the results produced by an AI tool for credit advice and lending should be regularly assessed for potential discrimination risks.

Another risk concerns manipulation. AI systems can subtly influence consumers' behavior and restrict their freedom of choice. Such practices are prohibited under both the AI Act and the UWG. Providers are, therefore, obliged to implement control mechanisms to prevent manipulation.

Overall, it is clear that an AI-tool for credit advice and lending offers great opportunities for efficiency and a consumer orientation, but at the same time it brings with it a multitude of legal, technical, and ethical challenges. The safe and fair use of AI systems therefore requires a close integration of technological innovation, careful implementation of legal obligations, and effective supervision. This is the only way to ensure that consumers benefit from the advantages without being exposed to disproportionate risks. To this end, it is recommended that the development and implementation of an AI tool for credit advice and lending be oriented on the following guidelines:

6. Guidelines

These guideline serve as a reference for the design, development, and deployment of an AI tool for consumer-oriented credit advice and lending. An AI tool that aligns with consumer-oriented credit advice and consumer-friendly lending enhances transparency, financial literacy, and decision-making for consumers and promotes socially sustainable lending practices.[392] Moreover, the costs of expert advice can be reduced through an AI tool, while at the same time providing the individualized advice and risk assessment that is legally required. This better facilitates or enables low-threshold access for all consumer groups to both credit advice and credit products.

Since, in practice, existing software already combines credit advice and lending, it is assumed that the AI tool to be developed will follow the same pattern. At appropriate points, however, explanations are also provided for the case where an AI tool is designed solely for credit advice (without lending).

The guidelines are aimed at various functional areas within a credit institution, including, in particular, product development, legal and compliance departments, as well as marketing and sales. They can also be used as a cross-departmental instrument to create a common framework for discussions on legal, technical, and ethical requirements.

1. General principles

1.1. Advisory service involves the individualized recommendation of one or more credit products based on the personal and financial circumstances of the consumer. What matters is the content of the activity, namely an individualized product recommendation based on personal and financial circumstances. The legal basis or remuneration is irrelevant.

1.2. The dual goal of credit advice is to facilitate the consumer's decision by providing a concrete recommendation and to strengthen the consumer's decision-making capacity.

[392] Roggemann and Größl 2025.

1.3. Credit advice must always be provided in the best interests of the consumer.

1.4. An AI tool for credit advice and lending must comply with GDPR principles in all phases of data processing, meaning in development and use. These principles include lawfulness, fairness, transparency, purpose limitation, data minimization, accuracy, storage limitation, integrity, and confidentiality.

1.5. In line with the accountability principle, banks must be able to demonstrate continuous application of these principles.

1.6. Banks must establish clear governance frameworks, maintain comprehensive documentation, and implement technical and organizational measures that ensure disclosure in conflict situations without risking business secrets. This ensures compliance, mitigates legal disputes, and reduces reputational risks.

2. Development of an AI tool for credit advice and lending

General points

2.1. Clear boundaries between credit advice and credit lending must be built into the AI tool.

2.2. AI system: Given the current uncertainty in the interpretation of the definition of AI under the AI Act, an AI tool for credit advice and lending must be considered an AI system under the AI Act in order to ensure compliance and minimize regulatory risks.

2.3. High-risk AI system: Because it performs creditworthiness assessments, such a system is classified as a high-risk AI system. Since an AI system for creditworthiness assessment includes profiling, human oversight cannot be the basis for exempting it from classification as a high-risk AI system.

2.4. Banks that develop (or have developed) and use an AI tool for credit advice and lending must comply with all obligations under the AI Act as both providers and deployers of a high-risk AI system.

2.4.1. These obligations include, for example, the establishment of risk management and data governance frameworks, the design of transparent documentation and logging structures, and the conducting of fundamental rights impact assessments.

2.4.2. Simplified compliance measures available to regulated financial institutions should not be regarded as exceptions, but rather as instruments that support the integration of the AI Act's requirements into existing governance structures.

2.5. Liability: Damages resulting from faulty advice provided by an AI tool are compensable under several applicable rules on liability, such as the general provisions on contractual or tort liability and the regulations under the GDPR or consumer credit law. Therefore, in order to minimize liability risks and reputational damage, banks are well advised to implement remedial mechanisms as part of their internal compliance structures for preventing, detecting, and addressing legal violations,.

2.6. To mitigate liability risks, banks should include in their agreements with third parties the requirement that the AI system be designed, developed, and operated in compliance with applicable regulations on data protection, anti-discrimination, and consumer protection.

2.7. To mitigate liability risks, it is advisable to include indemnification or recourse clauses in the agreements.

Data protection

2.8. Banks should document whether the bank and/or a third party acts as controller, joint controller (art. 26 GDPR), or processor (art. 28 GDPR).

2.8.1. A bank is the controller within the meaning of the GDPR if it uses third-party AI systems under its own responsibility to process personal data for the purposes of credit advice and lending.

2.8.2. The bank remains the controller when it uses an AI tool that is provided as a service. In this case, the third party is a processor within the meaning of art. 28 GDPR, and a data processing agreement must be concluded.

2.8.3. The external developer is the controller within the meaning of the GDPR if it processes the data provided by the bank for its own purposes, e.g., to improve or further develop its own systems.

2.8.4. The bank and the external developer are joint controllers if they jointly determine the purposes and essential means of the processing, e.g., when an AI tool is trained using data sets from both parties. In this case, an agreement in accordance with art. 26 GDPR must be concluded.

2.9. Banks may process personal data for the purpose of developing AI systems based on the legal ground of legitimate interest.

2.9.1. In doing so, data minimization strategies should be implemented to limit the amount of personal data included in the training data sets.

2.9.2. Privacy-preserving techniques should be used, such as differential privacy.

2.9.3. Personal data should be used only if less intrusive alternatives, such as anonymization or synthetic data, are insufficient. Data controllers must always apply the strongest form of anonymization suitable for model training and may use pseudonymized data only when anonymized or synthetic data are not sufficient.

2.10. Before putting an AI tool for credit advisory or for credit advisory and lending purposes into operation, a data protection impact assessment (DPIA) must be conducted. The fundamental rights impact assessment provided for in art. 27 AI Act can be integrated into the DPIA process so that the responsible parties can meet the respective regulatory requirements in a coordinated manner.

2.11. Banks must ensure documentation and accountability and, for this purpose, maintain a complete record of all training, updates, and safeguards to demonstrate GDPR compliance.

Antidiscrimination law

2.12. Variables in a regression model must not cause direct or indirect differentiation that constitutes prohibited discrimination under the law.

2.12.1. Protected characteristics under art. 6 CCD2 in conjunction with art. 21 CFR must not be used as variables.

2.12.2. Neutral variables must be regularly reviewed for potential negative effects on specific societal groups.

2.13. The anti-discriminatory quality of data sets must be ensured, particularly through quality controls on purchased data.

2.13.1. Training-, validation-, and test data sets must be checked for biases.

2.13.2. Existing biases in data sets must be reduced or eliminated.

2.13.3. It must first be examined whether the intended purpose can be achieved using synthetic or anonymized data. Only if the intended purpose cannot be achieved with

synthetic or anonymized data may sensitive personal data be used to reduce or eliminate existing biases.

3. AI tool in use

General points

3.1. For the provision of credit advice, an AI tool capable of working independently is preferred. However, it must not completely replace advisory service provided by humans. Consumers' freedom of choice must be preserved.

3.2. Consumers should be able to ask the AI tool questions—both during the exploration phase and after a recommendation. Questions should be possible, for example, if the AI tool's questions during the exploration phase are not clear to the consumer or if the reasoning behind the recommendation is unclear. At this point, human support should also be made available—whether in person contact at the branch, via a customer hotline, or through a chat window on the website.

3.3. If an AI tool is designed solely for the purpose of credit advice, the following points must be observed:

3.3.1. For processing credit scores solely for credit advice, banks cannot rely on legitimate interest. Therefore, an AI tool that is intended only for credit advice may not process a credit score without the consent of the data subject.

3.3.2. If credit scores from credit databases are used as a basis to deny access to the AI tool for credit advice, this denial constitutes a decision within the meaning of art. 22 para. 1 GDPR.

3.4. Banks must clearly inform consumers that they are interacting with an AI system and that the advice originates from an AI system rather than a human advisor.

3.5. Any tendency of people to naively trust the results of the AI tool for credit advice and lending (automation bias) must be countered.

3.5.1. The natural persons assigned for human intervention must possess the necessary competence, training, and authority to perform this task effectively.

3.5.2. An interdisciplinary approach is recommended for an AI tool for credit advice and lending. The individuals responsible for overseeing the AI tool should not only have knowledge of the AI tool and credit advice and lending processes but also be aware of discrimination risks.

Consumer credit law

3.6. To improve the quality of advice provided by the AI tool, it is recommended to provide consumers with general credit information in easily understandable language before the advisory service takes place and, if necessary, to explain this information in more detail during the advisory process.

3.7. The AI tool for credit advice and lending must inform consumers about the purpose of the tool, namely the provision of advisory services. In addition, consumers must be informed about any fees that may be charged and the range of products offered. When providing information about the product range, it is recommended to disclose the exact number of both the advisory service provider's own products as well as third-party products.

Exploration

3.8. During the exploration phase, it is recommended that the AI tool inquire about the purpose of the consumer credit and tailor the advice accordingly.

3.9. To determine the financial situation of the consumer, an account overview should always be offered only as an option. If the consumer prefers an account overview, they must be informed about the data to be collected, and a technical filter for sensitive data must be implemented.

3.10. The processing of sensitive data is prohibited. For a creditworthiness assessment, this prohibition is explicitly regulated in the CCD2. Processing sensitive data for credit advice would violate the principle of data minimization. Therefore, protective measures must be implemented in the design of the AI tool to ensure that sensitive data is not collected.

3.11. To comply with the principle of data minimization, the AI tool must avoid processing data that are not required for credit advice and lending. To support data minimization, mechanisms should be integrated into the AI tool that replicate a human advisor's explanations, thus allowing consumers to understand the significance of the information provided and the consequences of their decisions.

3.12. To ensure the accuracy of data, mechanisms must be established to regularly review and update customer information.

Assessment

3.13. For assessing the suitability of credit agreements in relation to the credit needs of the consumer, it is recommended that the AI tool consider different scenarios with varying repayment rates and illustrate the respective impact on interest costs.

Recommendation

3.14. To preserve consumers' freedom of choice and decision-making, it is recommended that the AI tool present and compare credit options objectively and in a tabular format.

3.14.1. In the tabular presentation and comparison of credit options, the AI tool should list the credit terms according to different risk classifications and repayment rates, enabling consumers to make an informed decision about which option to choose, or whether to forgo all of the alternatives.

3.14.2. The tabular comparison provided by the AI tool should include the advantages and disadvantages of the recommended credit options.

3.14.3. The tabular presentation and comparison should be clear and written in plain language.

3.14.4. The AI tool must explicitly highlight both the general risks associated with the proposed credit agreements and the specific risks of the recommended financing options.

3.15. The transparency of the AI tool's recommendations must also be ensured.

3.15.1. Consumers as well as the human advisors acting as a control mechanism should be able to understand the AI tool's recommendations.

3.15.2. To this end, the AI tool should provide a reasoned recommendation or, alternatively, a statement explaining why no credit agreement can be recommended. This will enable consumers to make an informed decision about whether to follow the recommendation or, alternatively, allow them to identify the personal or financial circumstances that would need to change in order to gain access to credit.

3.16. Consumers must be granted a reflection period of 7 to 14 days. The AI tool should therefore allow consumers to make use of this reflection period and subsequently apply for the credit they have decided upon.

Data protection

3.17. Banks should implement data minimization strategies, ensuring that only data strictly necessary for credit advice or lending is processed.
3.18. Banks must take reasonable steps to ensure the accuracy of credit data.
3.19. Banks must implement state-of-the-art security measures (technical and organizational) to protect financial data from misuse, alteration, or unauthorized access.
3.20. Banks should maintain detailed documentation of AI model training, post-training, and deployment activities to demonstrate GDPR compliance and support supervisory oversight.
3.21. For the processing of personal data by the AI tool for credit advice and lending, banks may rely on the legal basis of contract performance or legitimate interest.
3.22. Whether a decision is considered solely automated within the meaning of art. 22 GDPR does not depend on the existence of theoretical or practical alternatives. Therefore, it is recommended that banks not structure their compliance frameworks under art. 22 GDPR based on whether alternatives exist.
3.23. Probability values obtained as a result of internal scoring constitute a decision within the meaning of art. 22 para. 1 GDPR. Accordingly, banks must fulfill the related disclosure obligations, not least pursuant to art. 18 para. 8 CCD2.
3.24. The right of the data subject to explanations under art. 86 AI Act is overridden by art. 18 para. 8 CCD2 and art. 22 para. 3 GDPR. For an AI tool for credit advice and lending, it is recommended that data protection safeguards be aligned with the GDPR and CCD2.
3.25. Upon first contact with the consumer, banks should disclose privacy notices in an understandable and transparent manner.
3.26. Banks should add safeguards for financially inexperienced users (enhanced explanations, slower default flows, human-advisor option) and document the rationale for choosing these measures in the DPIA.
3.27. The explainability of the AI tool for credit advice and lending must be ensured from the outset (privacy by design).
3.27.1. Banks must prepare consumer-friendly explanations in plain language to ensure compliance with art. 15 para. 1 lit. h GDPR and art. 18 para. 8 CCD2. These explanations should include key factors and a feature sensitivity analysis (“what would change the outcome”).
3.27.2. Trade secrets can be protected through disclosure to supervisory authorities or courts. Therefore, banks should also establish a trade-secret handling route via the data protection authorities and courts.

Antidiscrimination law

3.28. The outputs of the AI system must be regularly reviewed with regard to discrimination risks.
3.28.1. In addition to review based on statistical methods, further measures, such as the use of individual or causality-based fairness metrics, are recommended.
3.28.2. It is recommended that fairness experts be involved in the review process.

3.28.3. Furthermore, mystery shopping practices represent a suitable measure for assessing discrimination risks.

Manipulation

3.29. Manipulation can result from dark patterns, subliminal influence, or distraction techniques. Such prohibited behavioral influence is forbidden under the AI Act and the UWG.

3.30. To reduce the manipulation risk, measures such as the following should be implemented:

3.30.1. The AI tool for credit advice and lending must provide all relevant information about credit options in a neutral manner necessary for informed decision-making.

3.30.2. In addition, preventive and control mechanisms must be implemented to monitor the operation of the AI system, also with regard to any risk of manipulation. This includes, for example, mystery shopping measures.

4. Post-training of the AI Tool

4.1. The guidelines for model development and training also apply to the post-training of the AI model.

4.2. Personal data obtained by the credit advice tool during the credit advice process can be used for post-training of the same credit advice tool; reuse for unrelated or general purpose AI systems is not permissible.

4.3. Data protection compliance requires safeguards, such as allowing data subjects to request that their inputs and outputs be excluded from post-training and ensuring a continuing right to object; it is also advisable to maintain a reasonable interval between data collection and processing, which should provide consumers with a genuine opportunity to exercise their rights.

Bibliography

Almada, Marco (2024): Law & Compliance in AI Security & Data Protection. Available online at https://www.edpb.europa.eu/system/files/2025-06/spe-training-on-ai-and-data-protection-legal_en.pdf, checked on 1/13/2026.

Andrade, Francisco; Morgado Rebelo, Diogo (2024): Schufa's Case C-634/21 on ADM: the 'Lenders' Quest' for GDPR-friendly Scoring has not been settled yet! Available online at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4882806, checked on 1/12/2026.

Arnal, Judith (2025): Unfit for purpose? The legal maze of credit scoring under EU law. European Credit Research Institute (ECRI).

BaFin (2021): Big Data und künstliche Intelligenz: Prinzipien für den Einsatz von Algorithmen in Entscheidungsprozessen.

BaFin (Ed.) (2023): Wenn ein Algorithmus über den Kredit entscheidet (BaFin Journal). Available online at https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Fachartikel/2023/fa_bj_2305_Algorithmen_Kreditvergabe.html, checked on 7/18/2024.

BaFin (2024): KI bei Banken und Versicherern: Automatisch fair?

Barocas, Solon; Selbst, Andrew D. (2016): Big Data's Disparate Impact. In *California Law Review* 104, pp. 671–732.

Bartlett, Robert; Morse, Adair; Stanton, Richard; Wallace, Nancy (2019): Consumer-Lending Discrimination in the FinTech Era. Available online at https://www.fdic.gov/bank/analytical/fintech/papers/stanton-paper.pdf, checked on 11/25/2021.

Beck, Susanne; Grunwald, Armin; Jacob, Kai; Matzner, Tobias (2019): Künstliche Intelligenz und Diskriminierung - Herausforderungen und Lösungsansätze. Whitepaper. München. Available online at https://www.plattform-lernende-systeme.de/publikationen-details/kuenstliche-intelligenz-und-diskriminierung-herausforderungen-und-loesungsansaetze.html?file=files/Downloads/Publikationen/AG3_Whitepaper_250619.pdf, checked on 12/1/2021.

Berliner Beauftragte für Datenschutz und Informationsfreiheit (2023): Computer sagt Nein. 300.000 Euro Bußgeld gegen Bank nach mangelnder Transparenz über automatisierte Ablehnung eines Kreditkartenantrags. Available online at https://www.datenschutz-berlin.de/pressemitteilung/computer-sagt-nein, checked on 1/20/2026.

Borges, Georg (2025): Die Haftung für Software und KI-Systeme nach der neuen Produkthaftungsrichtlinie. In *Computer und Recht*, pp. 1–15.

Buck-Heeb, Petra (2014): Kreditberatung, Finanzierungsberatung. In *BKR*, pp. 221–236.

Buck-Heeb, Petra (2015): Aufklärungs- und Beratungspflichten bei Kreditverträgen - Verschärfungen durch die EuGH-Rechtsprechung und die Wohnimmobilienkredit-Richtlinie. In *Zeitschrift für Bank- und Kapitalmarktrecht*, pp. 177–186.

Buck-Heeb, Petra (2018): Finanzierungsberatung: Aufklärungspflichten und Haftung. In *Zeitschrift für Wirtschaftsrecht (ZIP)*, pp. 705–714.

Buck-Heeb, Petra (2023): Rechtsunsicherheiten beim KI-Einsatz im Bankensektor. In *Zeitschrift für Wirtschafts- und Bankrecht* 35, pp. 1625–1636.

Buck-Heeb, Petra; Lang, Volker (2016): Kreditwürdigkeitsprüfung, Exploration und Beratung bei Immobiliar-Verbraucherdarlehen nach der Umsetzung der Wohnimmobilienkreditrichtlinie. In *Zeitschrift für Bankrecht und Bankwirtschaft*, p. 320.

Bülow, Peter; Artz, Markus (2019): Verbraucherkreditrecht. 10th ed.

Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e. V.: Genossenschaftliche Finanzgruppe. Unser Genossenschaftsmodell. Available online at https://www.bvr.de/Wer_wir_sind/Genossenschaftliche_FinanzGruppe, checked on 1/20/2026.

Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e. V. (2024): Alle Genossenschaftsbanken per Ende 2024 (vorläufige Werte in Tausend Euro). Available online at https://www.bvr.de/Wer_wir_sind/Genossenschaftliche_FinanzGruppe, checked on 1/20/2026.

Calders, Toon; Žliobaitė, Indrė (2013): Why Unbiased Computational Processes Can Lead to Discriminative Decision Procedures. In B. H. M. Custers, Toon Calders, Bart Schermer, Tal Zarsky (Eds.): Discrimination and Privacy in the Information Society. Data Mining and Profiling in Large Databases, vol. 3. Berlin, Heidelberg: Springer (SpringerLink Bücher, 3), pp. 43–57.

Centre for Information Policy Leadership (Ed.) (2024): Applying Data Protection Principles to Generative AI: Practical Approaches for Organizations and Regulators. Available online at https://www.informationpolicycentre.com/uploads/5/7/1/0/57104281/cipl_applying_data_protection_principles_genai_dec24.pdf, checked on 1/13/2026.

Daldrup, Andre; Gehrke, Nick (2003): Automatisierte Ratenkreditvergabe im Privatkundengeschäft mit risikoadjustierten Konditionen.

Damar, Duygu (2021): Chancen und Risiken von künstlicher Intelligenz und Algorithmen aus anti-diskriminierungsrechtlicher Perspektive. Gutachten. Stiftung Datenschutz.

Damar-Blanken, Duygu (2024): Altersdiskriminierung bei der Kreditvergabe am Beispiel von Altersgrenzen. In *Zeitschrift für Bank- und Kapitalmarktrecht* 24, p. 425.

Damar-Blanken, Duygu; Klinger, Helena; Roggemann, Hanne; Peters, Sally; Größ, Ingrid; Daneshian, Daniel (2023): Altersdiskriminierung bei der Kreditvergabe. institut für finanzdienstleistungen e.V.

Damar-Blanken, Duygu; Riechert, Anne; Roggemann, Hanne; Größl, Ingrid; Klinger, Helena; Peters, Sally (2024): Kreditwürdigkeitsprüfung - zwischen Überschuldungs- und Datenschutz. Perspektiven zur nationalen Umsetzung der Verbraucherkreditrichtlinie. institut für finanzdienstleistungen e.V. Berlin. Available online at https://www.vzbv.de/sites/default/files/2024-05/24-05-14_Gutachten_iff_Kreditw%C3%BCrdigkeitspr%C3%BCfung.pdf, checked on 6/13/2024.

Damar-Blanken, Duygu; Roggemann, Hanne; Peters, Sally; Lenze, Jana; Daneshian, Daniel (i. E.): Digital abgehängt. Barrieren im Zahlungsverkehr überwinden. institut für finanzdienstleistungen e.V. (iff).

Der Landesbeauftragte für Datenschutz und Informationsfreiheit Baden-Württemberg (2024): Rechtsgrundlagen im Datenschutz beim Einsatz von Künstlicher Intelligenz.

Ebers, Martin; Heinze, Christian; Krügel, Tina; Steinrötter, Björn (Eds.) (2020): Künstliche Intelligenz und Robotik. Rechtshandbuch. München: Verlag C.H.BECK oHG.

EIOPA, Consultative Expert Group on Digital Ethics in Insurance (2021): Artificial Intelligence Governance Principles. Towards Ethical and Trustworthy Artificial Intelligence in the European Insurance Sector. European Insurance and Occupational Pensions Authority. Luxembourg. Available online at https://www.eiopa.europa.eu/document-library/report/artificial-intelligence-governance-principles-towards-ethical-and_en, checked on 11/26/2021.

Ellenberger, Jürgen; Bunte, Hermann-Josef (Eds.) (2022): Bankrechts-Handbuch. 6. Aufl. München: Beck.

Ellenberger, Jürgen; Nobbe, Gerd (Eds.) (2023): Kommentar zum Kreditrecht: Praxiskommentar zum Darlehens- und Kreditsicherungsrecht des BGB. With assistance of Christian König. 4.th ed. Heidelberg: Finanz Colloquium Heidelberg GmbH.

Engelfriet, Arnoud (2025): An Uninterpretable Right: Legal and Practical Limits of the Right to an Explanation. Available online at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5312780, checked on 1/12/2026.

Engelhardt, Lisa; Teuber, Hanno (2025): Künstliche Intelligenz in der Bankpraxis. In *ZHR* 189, pp. 218–228.

Ernst & Young (2022): Consumer-Banking Studie. Available online at https://www.ey.com/de_de/industries/banking-capital-markets/die-generation-z-transformiert-das-privatkundengeschaeft, checked on 11/18/2025.

Esposito, Fabrizio; Grochowski, Mateusz (2022): The Consumer Benchmark, Vulnerability, and the Contract Terms Transparency: A Plea for Reconsideration. In *European Review of Contract Law* 18 (1), pp. 1–31. Available online at https://doi.org/10.1515/ercl-2022-2035.

European Commission (2022): Behavioural study on unfair commercial practices in the digital environment: dark patterns and manipulative personalisation. Final Report.

Feldkamp, Jakob; Kappler, Quirin; Poretschkin, Maximilian; Schmitz, Anna; Weiss, Erik (2024): Rechtliche Fairnessanforderungen an KI-Systeme und ihre technische Evaluation – Eine Analyse anhand ausgewählter Kreditscoring-Systeme unter besonderer Berücksichtigung der zukünftigen europäischen KI-Verordnung. In *Zeitschrift für Digitalisierung und Recht*.

Finance Watch (2025): Artificial intelligence in finance: how to trust a black box? Can and should the provision of AI-powered financial services be regulated?

Grochowski, Mateusz (2024): Infobrief 15/2024. Verbraucherfinanzdienstleistungen im Fernabsatz. institut für finanzdienstleistungen e.V. (iff). Hamburg.

Hacker, Philipp (2022): The European AI Liability Directives – Critique of a Half-Hearted Approach and Lessons for the Future. Available online at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4279796, checked on 1/12/2026.

Hacker, Philipp (2024): The AI Act between Digital and Sectoral Regulations.

Hacker, Philipp; Eber, Maximilian (2025): The Future of Credit Underwriting and Insurance under the EU AI Act: Implications for Europe and Beyond. In *Harvard Data Science Review* 7 (3). DOI: 10.1162/99608f92.171157d2.

Hansen, Ben R. (2025): Verlieren Banken den Kampf um ihre erhofften Erleichterungen bei Kresitwürdigkeits-Systemen? Available online at https://www.linkedin.com/pulse/verlieren-banken-den-kampf-um-ihre-erhofften-bei-hansen-ll-m--kceac/.

Harvard John A. Paulson School of Engineering and Applied Sciences: Courses & Educational Materials. Available online at https://privacytools.seas.harvard.edu/courses-educational-materials, checked on 1/20/2026.

Hassani, Bertrand K. (2021): Societal Bias Reinforcement through Machine Learning - A Credit Scoring Perspective. In *AI Ethics* 1 (3), pp. 239–247. DOI: 10.1007/s43681-020-00026-z.

Hastenteufel, Jessica; Kiszka, Sabrina (2020): Die Bedeutung von Kundenerwartungen für das Forbestehen von Kreditinstituten. Das klägliche Scheitern des aktuellen Betreuungsansatzes.

Hau, Wolfgang; Poseck, Roman (Eds.) (2025): BeckOK BGB. 76th ed.

Heinze, Christian; Engel, Timon-Johannes (2025): Das Verbot von ausbeuterischen und manipulativen KI-Praktiken. Eine Analyse von Art. 5 Abs. 1 lit. a und lit. b KI-VO. In *Künstliche Intelligenz und Recht*, pp. 19–29.

Hochrangige Expertengruppe für Künstliche Intelligenz (2019): Ethik-Leitlinien für eine vertrauenswürdige KI. Brüssel. Available online at file:///C:/Users/DUYGU~1.DAM/AppData/Local/Temp/ethics_guidelines_for_trustworthy_ai-de_87FCEDA3-0D4B-1829-E9376DF0CB2DFFFE_60425.pdf.

Irish Council for Civil Liberties (2025): AI system definition guidelines fail to provide clarity. Available online at https://www.iccl.ie/news/ai-system-definition-guidelines-fail-to-provide-clarity/, updated on 2/7/2025, checked on 1/6/2026.

Jandt, Silke; Steidle, Roland; Ambrock, Jens; Aßmus, Ubbo (Eds.) (2025): Datenschutz und Internet. DSGVO, BDSG, TDDDG, KI-VO, DMA, DSA. 2. Auflage. Baden-Baden: Nomos (NomosPraxis).

Johnson, Kristin; Pasquale, Frank; Chapman, Jennifer (2019): Artificial Intelligence, Machine Learning, and Bias in Finance - Toward Responsible Innovation. In *Fordham Law Review* 88, pp. 499–530.

Klarreich, Erica (2012): Privacy by the Numbers: A New Approach to Safeguarding Data. Edited by Quanta Magazine. Available online at https://www.scientificamerican.com/article/privacy-by-the-numbers-a-new-approach-to-safeguarding-data/, checked on 1/13/2026.

Kleinberg, Jon; Ludwig, Jens; Mullainathan, Sendhil; Sunstein, Cass R. (2018): Discrimination in the Age of Algorithms. In *Journal of Legal Analysis* 10, pp. 113–174. DOI: 10.1093/jla/laz001.

Krüger, Ulrich (2016): Neue Beratungspflichten bei Verbraucherdarlehen - ein Paradigmenwechsel? In *Zeitschrift für Bank- und Kapitalmarktrecht*, pp. 397–402.

Langenbucher, Katja (2022): AI credit scoring and evaluation of creditworthiness – a test case for the EU proposal for an AI Act.

Langenbucher, Katja; Bliesener, Dirk H.; Spindler, Gerald (Eds.) (2020): Bankrechts-Kommentar. 3. Auflage. München: C.H. Beck.

Lauscher, Anne; Legner, Sarah (2022): Künstliche Intelligenz und Diskriminierung. In *Zeitschrift für Digitalisierung und Recht*, pp. 367–390.

Laux, Johann; Ruschemeier, Hannah (2025): Automation Bias in the AI Act: On the Legal Implications of Attempting to De-Bias Human Oversight of AI. In *Eur. j. risk regul.*, pp. 1–16. DOI: 10.1017/err.2025.10033.

Legner, Sarah (2024): KI-Verordnung und algorithmische Diskriminierung. In *Recht Digital*, pp. 426–432.

Li, Shu (2023): Compensation for non-material damage under Article 82 GDPR: A review of Case C-300/21. In *Maastricht Journal of European and Comparative Law* 30 (3), pp. 335–345. DOI: 10.1177/1023263X231208835.

Meding, Kristof (2025): Einführung in die algorithmische Fairness. Wie Algorithmen faire Entscheidungen treffen können. In *Künstliche Intelligenz und Recht*, pp. 51–54.

Montagnani, Maria Lillà; Najjar, Marie-Claire; Davola, Antonio (2024): The EU Regulatory approach(es) to AI liability, and its Application to the financial services market. In *Computer Law & Security Review* 53, p. 105984. DOI: 10.1016/j.clsr.2024.105984.

Orwat, Carsten (2019): Diskriminierungsrisiken durch Verwendung von Algorithmen. Eine Studie, erstellt mit einer Zuwendung der Antidiskriminierungsstelle des Bundes. Berlin: Nomos. Available online at https://www.antidiskriminierungsstelle.de/SharedDocs/Downloads/DE/publikationen/Expertisen/studie_diskriminierungsrisiken_durch_verwendung_von_algorithmen.pdf?__blob=publicationFile&v=6.

Paal, Boris; Schulz, Lucas (2025): Art. 22 DS-GVO und KI-VO: Zum Recht der automatisierten Entscheidungsfindungen im Lichte des EuGH-SCHUFA-Urteils. In *Zeitschrift für Digitalisierung und Recht*, pp. 89–109.

Pedreschi, Dino; Ruggieri, Salvatore; Turini, Franco (2013): The Discovery of Discrimination. In B. H. M. Custers, Toon Calders, Bart Schermer, Tal Zarsky (Eds.): Discrimination and Privacy in the Information Society. Data Mining and Profiling in Large Databases, vol. 3. Berlin, Heidelberg: Springer (SpringerLink Bücher, 3), pp. 91–108.

Peters, Sally; Größl, Ingrid; Happel, Birgit; Damar, Duygu; Roggemann, Hanne (2022): Die Bedeutung von Finanzdienstleistungen für die Lebenslage von Familien in herausfordernden Finanzsituationen. Edited by institut für finanzdienstleistungen e.V. (iff). Available online at https://www.iff-hamburg.de/wp-content/uploads/2022/06/iff-2022-Abschlussbericht-FDL-fuer-Familien.pdf, checked on 12/1/2022.

Radtke, Tristan (2025): 'Human Oversight under the AI Act and its Interplay with Art. 22 GDPR. In Benjamin Raue, Antje von Ungern-Sternberg, Lea Katharina Kumkar, Thomas Rüfner (Eds.): Artificial Intelligence and Fundamental Rights. The AI Act of the European Union and its Implications for Global Technology Regulation. Trier (Trier Studies on Digital Law, 4), pp. 91–109.

Reifner, Udo; Feldhusen, Claire (2019): Handbuch Kreditrecht.

Riechert, Anne; Bücken, Leander (2022): Zwischen Innovation und Wagnis. Der Einsatz Künstlicher Intelligenz im Finanzsektor. In *REthinking: Law* 5 (6), pp. 14–20.

Roggemann, Hanne; Damar-Blanken, Duygu; Riechert, Anne; Lenze, Jana; Größl, Ingrid; Peters, Sally (2024): Mehr Teilhabe am Kreditmarkt ermöglichen – was kann die SCHUFA dazu beitragen? institut für finanzdienstleistungen e.V. (iff). Hamburg.

Roggemann, Hanne; Größl, Ingrid (2025): Verbraucherfreundliche Konsumentenkredite: Fair-verantwortungsvoll-sozial nachhaltig (Policy-Brief-1_2025). Available online at https://www.iff-hamburg.de/wp-content/uploads/2025/03/Policy-Brief-1_2025_verbraucherfreundlicher-Kredit.pdf, checked on 9/2/2025.

Säcker, Franz Jürgen; Rixecker, Roland; Oetker, Hartmut; Limperg, Bettina (Eds.) (2023): Münchener Kommentar zum Bürgerlichen Gesetzbuch. 9. Auflage. München: C.H. Beck (Beck-online Bücher). Available online at https://beck-online.beck.de/?vpath=bibdata/komm/MuekoBGB/cont/MuekoBGB.htm.

Sargeant, Holli (2023): Algorithmic decision-making in financial services: economic and normative outcomes in consumer credit. In *AI Ethics* 3, pp. 1295–1311.

Scheer, Judith (2019): Algorithmen und ihr Diskriminierungsrisiko Eine erste Bestandsaufnahme. Edited by Senatsverwaltung für Justiz, Verbraucherschutz und Antidiskriminierung. Berlin.

Schefzig, Jens; Kilian, Robert (Eds.) (2025): BeckOK KI-Recht. 4th ed.

Schröder, Jan Henrik (2018): Die Implementierung einheitlicher CRM-Prozesse und Beratungsstandards im Privatkundengeschäft deutscher Genossenschaftsbanken: Empirische Befunde zur Umsetzung des BVR-Projekts Beratungsqualität durch Einführung der genossenschaftlichen Beratung. Working Paper.

Spindler, Gerald (2023): Different Approaches for Liability of Artificial Intelligence – Pros and Cons – the New Proposal of the EU Commission on Liability for Defective Products and AI Systems. Available online at https://ssrn.com/abstract=4354468, checked on 1/12/2026.

statista (2022a): Sparda-Bank-Kunden. Konsumenten & Marken.

statista (2022b): Volksbank-Kunden. Konsumenten & Marken.

Teambank (2024): Teambank Liquiditätsbarometer Deutschland 2024. Available online at https://www.teambank.de/wp-content/uploads/2024/08/240617-PI4-KI-Geschuetzte-Beratung.pdf, checked on 1/6/2026.

Theis, Ricarda (2024): Auswirkungen der KI-Verordnung und der KI-Haftungs-Richtlinie auf die Haftung beim KI-Einsatz in der Finanzbranche. In *Zeitschrift für Bank- und Kapitalmarktrecht* (414-420).

Trivedi, Shrawan Kumar (2020): A Study on Credit Scoring Modeling with Different Feature Selection and Machine Learning Approaches. In *Technology in Society* 63, p. 101413. DOI: 10.1016/j.techsoc.2020.101413.

van Bekkum, Marvin (2025): Using sensitive data to de-bias AI systems: Article 10(5) of the EU AI act. In *Computer Law & Security Review* 56, p. 106115. DOI: 10.1016/j.clsr.2025.106115.

Wachter, Sandra; Mittelstadt, Brent; Floridi, Luciano (2017): Why a right to explanation of automated decision-making does not exist in the General Data Protection Regulation. Available online at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2903469, checked on 1/12/2026.

Weltersbach, Max; Aslan, Gabriel (2025): Praktische Umsetzung der KI-VO - Komponenten zur strategischen Ausrichtung. Ein Blick auf die regulierungsstrategische Umsetzung innerhalb der Institute. In *Zeitschrift für Bank- und Kapitalmarktrecht*, pp. 49–57.

Wenlong Li; Yueming Zhang; Qingqing Zheng; Aolan Li (2022): The quest for lawful AI training under data protection frameworks: Global controversies and practical implications. Available online at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5162653, checked on 1/12/2026.

Wolff, Heinrich Amadeus; Brink, Stefan; v. Ungern-Sternberg, Antje (2023): BeckOK Datenschutzrecht. 24.th ed.

Žliobaitė, Indrė; Custers, Bart (2016): Using Sensitive Personal Data May Be Necessary for Avoiding Discrimination in Data-driven Decision Models. In *Artificial Intelligence and Law* 24, pp. 183–201. DOI: 10.1007/s10506-016-9182-5.

Züger, Theresa; Mahlow, Philipp; Pothmann, Daniel; Mosene, Katharina (2025a): Human in the Loop im Feld Kreditvergabe. Praxisbericht für den Sektor Finanzdienstleistung.

Züger, Theresa; Mahlow, Philipp; Pothmann, Daniel; Mosene, Katharina; Burmeister, Fabian; Kettemann, Matthias; Schulz, Wolfgang (2025b): Crediting Humans: A Systematic Assessment of Influencing Factors for Human-in-the-Loop Figurations in Consumer Credit Lending Decisions. In : Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency. FAccT '25: The 2025 ACM Conference on Fairness, Accountability, and Transparency. Athens Greece, 23 06 2025 26 06 2025. New York, NY, USA: ACM, pp. 1281–1292.

Guidelines, Opinions and Recommendations

Article 29 Data Protection Working Party, Opinion 5/2014 on Anonymisation Techniques, Brussels, 10.04.2014, available at: https://ec.europa.eu/justice/article-29/documentation/opinion-recommendation/files/2014/wp216_en.pdf, last accessed: January 20, 2026

Article 29 Data Protection Working Party, Opinion 8/2014 on the on Recent Developments on the Internet of Things, Brussels, 16.09.2014, available at: https://ec.europa.eu/justice/article-29/documentation/opinion-recommendation/files/2014/wp223_en.pdf, last accessed: January 20, 2026

Article 29 Data Protection Working Party, Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679, Brussels, 06.02.2018, available at: https://ec.europa.eu/newsroom/article29/items/612053, last accessed: January 20, 2026

Article 29 Data Protection Working Party, Guidelines on Data Protection Impact Assessment (DPIA) and determining whether processing is “likely to result in a high risk” for the purposes of Regulation 2016/679, Brussels, 07.10.2017, available at: https://ec.europa.eu/newsroom/article29/items/611236/en, last accessed: January 20, 2026

Commission Nationale de l’Informatique et des Libertés, AI system development: CNIL’s recommendations to comply with the GDPR, 05.01.02026, available at: https://www.cnil.fr/en/ai-system-development-cnils-recommendations-to-comply-gdpr#:~:text=Gathering%20consent%2C%20however%2C%20is%20often,will%20generally%20be%20more%20suitable, last accessed: January 20, 2026

Commission Nationale de l’Informatique et des Libertés, Relying on the legal basis of legitimate interests to develop an AI system, 05.01.02026, available at: https://www.cnil.fr/en/relying-legal-basis-legitimate-interests-develop-ai-system, last accessed: January 20, 2026

Data Protection Authority of Belgium, General Secretariat, Artificial Intelligence Systems and the GDPR – A Data Protection Perspective, Brussels, 2014, available at: https://www.autoriteprotectiondonnees.be/publications/artificial-intelligence-systems-and-the-gdpr---a-data-protection-perspective.pdf, last accessed: January 20, 2026

European Central Bank, Opinion of the European Central Bank of 29.12.2021 on a proposal for a regulation laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), CON/2021/40, OJ C 115, 11.02.2022, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C:2022:115:TOC, last accessed: January 20, 2026

European Commission, Liability for Artificial Intelligence and Other Emerging Digital Technologies: Report from the Expert Group on Liability and New Technologies – New Technologies Formation, Publications Office of the European Union, Luxembourg, 2019, available at: https://op.europa.eu/en/publication-detail/-/publication/1c5e30be-1197-11ea-8c1f-01aa75ed71a1/language-en, last accessed: January 20, 2026

European Commission, Report on the safety and liability implications of Artificial Intelligence, the Internet of Things and robotics, COM (2020) 64 final, Brussels, 19.02.2020, available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52020DC0064, last accessed: January 20, 2026

European Commission, Commission Guidelines on prohibited artificial intelligence practices established by Regulation (EU) 2024/1689 (AI Act), C(2025) 5052 final, Brussels, 29.07.2025, available at https://digital-strategy.ec.europa.eu/en/library/commission-publishes-guidelines-prohibited-artificial-intelligence-ai-practices-defined-ai-act, last accessed: January 20, 2026

European Commission, Commission Guidelines on the Definition of an Artificial Intelligence System Established by Regulation (EU) 2024/1689 (AI Act), C(2025) 5053 final, Brussels, 29.07.2025, available at: https://digital-strategy.ec.europa.eu/en/library/commission-publishes-guidelines-ai-system-definition-facilitate-first-ai-acts-rules-application, last accessed: January 20, 2026

European Data Protection Board, Guidelines 2/2019 on the processing of personal data under Article 6(1)(b) GDPR in the context of the provision of online services to data subjects, available at: https://www.edpb.europa.eu/our-work-tools/our-documents/guidelines/guidelines-22019-processing-personal-data-under-article-61b_en, last accessed January 20, 2026

European Data Protection Board, Guidelines 07/2020 on the concepts of controller and processor in the GDPR, Version 2.1, Brussels, 07.07.2021, available at: https://www.edpb.europa.eu/our-work-tools/documents/public-consultations/2020/guidelines-072020-concepts-controller-and_en, last accessed: January 20, 2026

European Data Protection Board, Guidelines 1/2024 on processing of personal data based on Article 6(1)(f) GDPR, Version 1.0, 08.10.2024, available at: https://www.edpb.europa.eu/system/files/2024-10/edpb_guidelines_202401_legitimateinterest_en.pdf, last accessed: January 20, 2026

European Data Protection Board, Opinion 28/2024 on certain data protection aspects related to the processing of personal data in the context of AI models, 17.12.2024, available at: https://www.edpb.europa.eu/our-work-tools/our-documents/opinion-board-art-64/opinion-282024-certain-data-protection-aspects_en, last accessed: January 20, 2026

European Data Protection Supervisor, Opinion 11/2021 on the Proposal for a Directive on Consumer Credits, 26.08.2021, available at: https://www.edps.europa.eu/data-protection/our-work/publications/opinions/edps-opinion-proposal-directive-consumer-credits_en, last accessed: January 20, 2026

European Parliament, Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics, Strasbourg, 16.02.2017, available at: https://www.europarl.europa.eu/doceo/document/TA-8-2017-0051_EN.html, last accessed: January 20, 2026

Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder, Vorschläge für Handlungsempfehlungen an die Bundesregierung zur Verbesserung des Datenschutzes bei Scoringverfahren, Stellungnahme vom 11. Mai 2023, available at: https://www.datenschutzkonferenz-online.de/media/st/DSK-Handlungsempfehlungen_Verbesserung_des_Datenschutzes_bei_Scoringverfahren.pdf, last accessed: January 20, 2026

Konferenz der unabhängigen Datenschutzbehörden des Bundes und der Länder, Orientierungshilfe der Konferenz der unabhängigen Datenschutzaufsichtsbehörden des Bundes und der Länder vom 6. Mai 2024, Künstliche Intelligenz und Datenschutz, Version 1.0, Nr. 33, 06.05.2024, available at: https://www.datenschutzkonferenz-online.de/media/oh/20240506_DSK_Orientierungshilfe_KI_und_Datenschutz.pdf, last accessed: January 20, 2026