

Artificial Intelligence in the Review Process

DFG Position and Perspectives



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1. Introduction

The ongoing digital turn is changing science and the humanities in many ways. The development of generative artificial intelligence (AI), in particular so-called large language models (LLMs), is creating new possibilities for information processing, text generation and analysis. These developments are increasingly impacting research funding procedures, especially the review process, which is regarded as the core mechanism for quality assurance within the DFG's funding system.

Against this background, the DFG has carried out an in-depth examination of the role and potential use of AI in review. In a DFG statement issued in September 2023, the use of AI in the review process was initially ruled out in order to establish clear conditions and provide procedural certainty in relation to this rapidly evolving technology. As announced, a comprehensive reassessment was carried out between 2023 and 2025, based in part on close monitoring of ongoing developments. The aim was to analyse opportunities and risks, clarify legal and ethical frameworks and maybe come to a responsible basis for the use of AI in review.

This white paper summarises that process of clarification. It outlines the development of internal discussions, presents the disciplinary, legal and technical arguments and explains the introduction of the Guideline on the Use of Artificial Intelligence in the Review Process adopted in December 2025.

2. Background and previous DFG position

In September 2023, the DFG Executive Committee published a statement on the influence of generative models on science and the humanities and on the DFG's funding activities. Here it was stated that generative AI systems hold considerable potential for research and knowledge production but also raise questions concerning research integrity, transparency and confidentiality, as well as giving rise to epistemic issues.

The use of such systems in the review process was initially ruled out. This was justified based on the special need to protect confidential proposal documents and the fact that reviewers are solely responsible for the content and quality of their assessments. The statement stressed that reviews must be authored and justified by humans alone and that the use of generative models within the review process was inadmissible in light of confidentiality requirements.

This position was explicitly framed as an interim stage, however. The Executive Committee announced that it would monitor technical and legal developments and, based on empirical experience, examine whether and subject to what conditions the use of AI might be possible in future. To this end, the Senate Ad Hoc Working Group on the Digital Turn was tasked with examining the relevant epistemic, technical, legal and ethical questions in greater depth.

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Members and permanent guests of the DFG Senate Ad Hoc Working Group on the Digital Turn, 2022–2026

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3. Development of the discussion within the DFG's statutory bodies

Between 2023 and 2025, the Senate Ad Hoc Working Group on the Digital Turn held a number of meetings to address possible functional dimensions of AI in the review process. The discussions reflect a shift from a precautionary, restrictive stance towards a regulatory, enabling perspective.

In 2023, the focus was initially on technical and epistemic issues. Topics discussed included the "black box" character of generative models, limited verifiability, potential bias in training data, the handling of bias, the function and further development of peer review and the risk that established research positions might be disproportionately reproduced based on data-driven probabilities. Data protection and copyright requirements were also identified as major obstacles to the use of AI.

From 2024 onwards, the focus shifted to the conditions under which legally compliant and scientifically defensible use might be possible. A systematic distinction was drawn between three types of AI systems: commercial cloud-based models (type A), licensed services with data protection agreements (type B) and locally or institutionally hosted open-source models (type C). This differentiation made it possible to identify secure scenarios. Type C systems in particular were assessed as being close to research practice and suitable for legally compliant implementation.

At the same time, the adoption of the European AI Act (EU 2024/1689) established a legal framework governing the responsibilities of deployers and users of AI systems. These developments enabled the DFG to reassess its previous exclusionary practice.

In the final phase of deliberations in 2025, the working group reached a consensus that the use of AI should be permitted in the review process subject to clearly defined conditions. Four principles provide the foundation here: confidentiality, transparency, quality assurance and responsibility. On this basis, the development of a binding guideline was initiated.

4. Opportunities and potential uses

The discussions show that the use of AI in the review process presents not only risks but also substantial potential. AI systems can enhance efficiency by supporting reviewers in structuring their texts, conducting literature searches, revising language and checking formal aspects, for example, thereby helping them focus more on assessing academic quality in substantive terms.

In addition, the use of AI may increase the comparability of reviews. Better structuring of texts and more precise wording contribute to clarity, and this may in turn improve comprehensibility and coherence, particularly in multilingual or interdisciplinary review contexts.

Finally, the use of AI offers an opportunity to align review processes more closely with the state of technological innovation. The controlled use of digital tools in the review process aligns with the DFG's self-conception as a learning, science-led organisation dedicated to actively shaping the digital turn.

This potential can only be realised if the use of AI is clearly regulated, legally secured and governed by transparent procedures.

5. Challenges and risks

Introducing AI to the review process requires critical engagement with the risks that this technology entails.

One fundamental concern is that content may be distorted due to structural bias. Generative models are based on statistical probabilities and reflect dominant viewpoints in society, culture and academia, so innovative or novel approaches may not be adequately represented. Without careful scrutiny, such distortions could undermine the objectivity and diversity of academic assessments; this must be avoided at all cost.

Another risk concerns unequal levels of AI literacy. Reviewers' ability to assess AI-generated content varies, and this may give rise to differences in the quality of use. The DFG addresses this challenge by providing information and awareness-raising measures.

Particular importance is attached to safeguarding confidentiality. Funding proposals often contain unpublished research ideas, data and methodological details, and protecting these is a core element of research integrity. Any sharing of such content with external systems

or third parties is incompatible with this principle. For this reason, the use of cloud-based systems without contractually guaranteed data security is not permitted.

In view of the above, AI can clearly only be used in the review process subject to binding framework conditions. Firstly, applicants must consent at several legal levels to the use of AI in review within the defined framework. At the same time, reviewers must commit to using AI solely as prescribed. In order to support reviewers in the appropriate use of AI, a guideline has been developed that sets out practical requirements relating to legal certainty, ethical accountability and procedural quality.

6. Guideline on the Use of Artificial Intelligence in the Review Process

The guideline adopted in December 2025 on the use of artificial intelligence in the review process provides the normative framework for the future use of AI systems in DFG review processes.

It defines AI as a supporting tool, not a substitute for human judgement. AI may be used for textual and structural support, literature searches and formal text checks, while the academic analysis, evaluation and recommendation remain the exclusive responsibility of the individual reviewer.

One key element here is the principle of confidentiality: proposal content may only be processed in systems that ensure secure, non-public data processing. This applies in particular to locally installed or institutionally hosted applications. Cloud-based systems may only be used where it is contractually guaranteed that data is neither stored nor used for training purposes and where compliance with this contractual obligation can be assumed.

The guideline also establishes a transparency requirement: the use of AI must be disclosed to the DFG. This disclosure promotes transparency in decision-making and supports trust in the integrity of the review process.

Furthermore, the guideline emphasises quality assurance: AI-generated content must not be adopted uncritically. It must be checked for accuracy, bias and disciplinary appropriateness. Responsibility for the content remains with the reviewer.

The guideline thus establishes a balanced and legally robust framework that enables the use of AI without compromising the fundamental principles of research integrity.

7. Outlook and institutional implications

In issuing the guideline and the associated declarations, the DFG now permits the use of AI in the review process providing the defined requirements are met. For the DFG, this results in several fields of action, including the need to inform reviewers about legal and ethical frameworks, emphasise the importance of AI-related skills and continuously monitor implementation in practice. The aim is to enable evidence-based adjustments to the guideline in the future based on experience gained.

8. Conclusion

The introduction of the guideline on the use of AI in the review process is a key step in updating science-led funding practice. The guideline clarifies permissible uses, defines responsibilities and safeguards the principles of research integrity.

The DFG understands artificial intelligence as a support tool, not as a replacement for academic judgement. By combining openness to technological innovation with normative commitments, the DFG contributes to sustaining trust, transparency and quality in the review process in the long term. This further develops academic review as a central element of funding activities, in line with the requirements of a digital, innovation-oriented research system.

Members and permanent guests of the DFG Senate Ad Hoc Working Group on the Digital Turn, 2022–2026

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