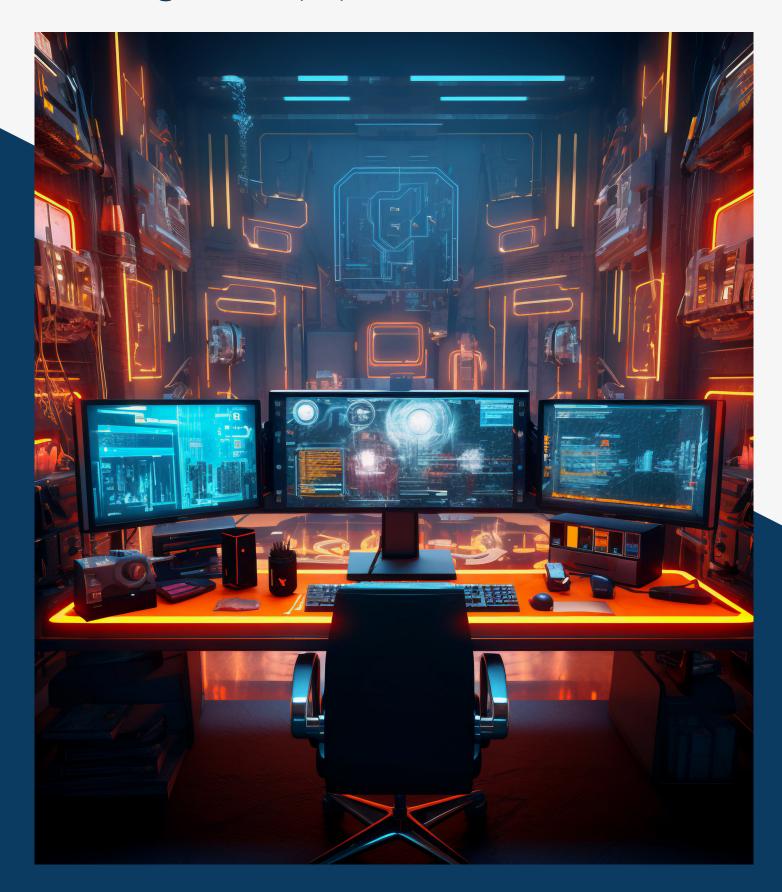# Guidance on the use of artificial intelligence (AI) for IEC Committees

Guidance on the use of artificial intelligence (AI) for IEC Committees

1. Introduction

Artificial intelligence (AI) can be defined as the capability of a functional unit to perform tasks that are generally associated with human intelligence, such as reasoning and learning. Generative AI, in particular, can bring both strategic benefits and risks to an organization, as well as potential harm to IEC and its stakeholders.

If used responsibly, lawfully, and ethically, AI can be a powerful tool for IEC Committees (TCs, SCs, PCs, SyCs) in the development of international standards and other publications, related conformity assessment procedures or forms, and other future derived products.

To ensure that the design, development, deployment and use of AI technologies, including generative AI, within IEC Committees (TCs, SCs, PCs, SyCs) is ethical, lawful and in line with the IEC's values in the development and maintenance of IEC Standards and Deliverables, the IEC has developed this guidance document which will be a living document.

This guidance document, underpinned by the principles of accountability[i], respect for privacy[ii], avoidance of bias[iii], safety[iv] by design and transparency[v], outlines the rules, procedures, and best practices for all IEC Committees. It applies to all officers and experts participating in IEC technical work and will continue to evolve.

Annex A provides a list of relevant AI tools, applications, and typical use cases for IEC Committees. The IEC Secretariat will continually update the AI tools licensed for IEC Committees.

*This guidance does not address the content of IEC International Standards and other publications on matters of AI which may be subject to separate guidance, including for specific technology domains.

2. General use of AI tools

a) **Do** use AI tools, including generative AI, to inspire creativity and guide research for the writing and development of standards but, as always, check the sources and underlying materials.
b) **Do** be careful with any free or non-licensed (to you, by IEC) versions of AI tools by reading the applicable terms and conditions. When in doubt, contact your Technical Officer or TC/SC/SyC Secretary who can liaise with the IEC Secretariat as needed.
c) **Do** familiarize yourself with AI tools, both non-licensed and licensed before using them to ensure they work as intended and do not undermine or lead to an infringement of the IEC's Intellectual Property.
d) **Do** share your experience with AI tools in terms of what works and what does not work with your Technical Officer and TC/SC/SyC Secretary, as this can support the use of AI within the technical community.
e) **Do** ensure that data storage, transfer and processing follow regulations, best practice and, where applicable, IEC International Standards and other publications, such as ISO/IEC 42001 on management systems for AI.

3.   Code of conduct for technical work – spotlight on AI

Abiding by the *IEC Code of conduct for technical work* (or "Code of conduct") is an obligation for participation in IEC Committees and their subgroups. The list below is written to highlight principles from the Code of conduct in light of the use of AI tools by IEC Committees. In the case of any conflict between this document and the Code of conduct, the Code of conduct shall prevail.

a)   Respect and protect the brand and reputation of IEC
Do use AI ethically, in a way that continues to respect cultural, social, and individual sensitivities, avoiding the potential for harm or misinformation.

b)   Work for the net benefit of the international community and uphold the consensus process
Do use AI in a way that benefits the writing and development of International Standards and other publications while achieving consensus.

c)   Participate actively
Do not use AI as a substitute for your attendance, participation, or any other decision-making activity you undertake in support of writing and developing an International Standard or other publication.

d)   Respect IEC's standards development policies
Do ensure you are familiar with, and abide by, the IEC Copyright policy and implementation guidelines, ISO/IEC Directives and IEC Privacy notice, as adherence to these are a requirement for participation in the IEC's technical work.

Do not use images or text created by generative AI in any IEC content, either internally or externally, unless you are using an AI tool provided by the IEC Secretariat as permitted.

e)   Respect IEC copyright and protected data
Do not feed free, public, or non-licensed[vi] AI tools and systems with IEC copyrighted works, personal data, confidential information, or other sensitive materials.

Do use AI tools provided by the IEC Secretariat while respecting privacy rights and processing of personal data in accordance with applicable regulations, the IEC Privacy notice, any applicable personal data breach notification guidelines and/or data classification framework.

4.   Deployment and monitoring in IEC Committees

a)   **Do** work together in your technical committee to ensure experts and officers understand the use of AI, applications available and the guidance from IEC.
b)   **Do** request support from your Technical Officer or the IEC Secretariat on the use of AI and to understand the strengths and limitations of AI tools.
c)   With the help of the IEC Secretariat, **do** ensure that data, if any, used to train AI tools and systems, as provided by the IEC Secretariat is screened for biases and corrected.
d)   **Do** verify results or outputs of generative AI, as provided by the IEC Secretariat, including for any unexpected or inappropriate outputs. This may include integrating adequate feedback loops to support continuous refinement of generative models, if any.

5.   Training, support, and compliance

a)   **Do** promote and stay updated on AI advancements, ethical concerns, and best practices with particular emphasis on IEC International Standards and other publications.
b)   **Do** raise concerns or possible misuses of AI to your Technical Officer and TC/SC/SyC Secretary.

6. Further reading

- Stanford AI Index Report
- EU AI Act
- US Executive Order (plus the White House Blueprint for an AI Bill of Rights)
- Cyberspace Administration of China (CAC) Draft Measures on Generative AI Services
- OECD AI Principles
- NIST AI Risk Management Framework
- Council of Europe's Committee on Artificial Intelligence
- UNESCO Recommendation on the Ethics of AI
- World Economic Forum AI Governance Alliance
- United Nations Global Digital Compact
- ITU AI for Good Summits

For questions, please consult your National Committee or the IEC IT Helpdesk for help using IEC IT tools, including AI tools. For any personal data protection, intellectual property, or licensing concerns, please contact the IEC Data Protection Officer at dataprotection@iec.ch or IEC legal team through your Technical Officer.

This document will be continually updated.
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[i] Accountability ensures that decisions made throughout the organization, including those that are made through the use of AI, are founded in adequate governance and controls. This will also help to ensure that AI technologies will be implemented with minimal bias, see ISO/IEC 38507, 4.3 and ISO/IEC 22989, 3.5.2, and ISO/IEC 42001.

[ii] ISO/IEC TR 26927:2011, 3.34

[iii] Bias is the "systematic difference in treatment of certain objects, people or groups in comparison to others", see ISO/IEC 22989, 3.5.4

[iv] Safety ensures that "where necessary, the organization should put in place appropriate systems for the ongoing management of safety as well as considering how the use of AI can reduce the exposure of humans to dangerous activities", see ISO/IEC 38507, 6.7.3

[v] Transparency is the "open, comprehensive, accessible, clear and understandable presentation of information"; "transparency and explainability of AI systems (including insight into the objectives, assumptions and rules included in them)" give rise to important implications when AI systems are used for "addressing tasks and problems that were previously performed by humans […] together with adequate processes to modify and update those algorithms". Transparency "can involve communicating appropriate information about the system to stakeholders (e.g., goals, known limitations, definitions, design choices, assumptions, features, models, algorithms, training methods and quality assurance processes). Additionally, transparency of an AI system can involve informing stakeholders about the details of data used (e.g., what, where, when, why data is collected and how it is used) to produce the system and the protection of personal data along with the purpose of the system and how it was built and deployed. Transparency can also include informing stakeholders about the processing and level of automation used to make related decisions", see ISO 16759:2013, 3.8.4, modified, ISO/IEC TS 5723:2022, 3.2.20, and ISO/IEC 38507, 4.2. See also ISO/IEC 22989.

[vi] Non-licensed in this document shall mean without a license held by IEC Secretariat; licensed shall mean with a license held by the IEC Secretariat. Please note that the rights you may have under an individual or corporate license may not flow to IEC and therefore should be avoided.