

Frequently Asked Questions

What is *Ethically Aligned Design*?

Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems (A/IS) is a work that encourages technologists to prioritize ethical considerations in the creation of autonomous and intelligent technologies.

The document has been created by committees of *The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems*, ("The IEEE Global Initiative") comprised of [several hundred participants](#) from six continents, who are thought leaders from academia, industry, civil society, policy and government in the related technical and humanistic disciplines to identify and find consensus on timely issues.

The document's purpose is to:

- Advance a public discussion about how we can establish ethical and social implementations for intelligent and autonomous systems and technologies, aligning them to defined values and ethical principles that prioritize human well-being in a given cultural context.
- Inspire the creation of Standards (IEEE P7000™ series and beyond) and associated certification programs.
- Facilitate the emergence of national and global policies that align with these principles.

What is the appropriate Citation for the Document?

The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems. *Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems*, Version 2. IEEE, 2017. http://standards.ieee.org/develop/indconn/ec/autonomous_systems.html.

Is *Ethically Aligned Design* a Professional Code of Conduct or a Code of Ethics?

Ethically Aligned Design is not a code of conduct or a professional code of ethics. Engineers and technologists have well-established codes, and we wish to respectfully recognize the formative precedents surrounding issues of ethics and safety and the professional values these Codes represent. These Codes provide the broad framework for the more focused domain addressed

in this document, and it is our hope that the inclusive, consensus-building process around its design will contribute unique value to technologists and society as a whole.

This document is also not a position, or policy statement, or formal report. It is intended to be a working reference tool created in an inclusive process by those in the relevant scientific and engineering communities prioritizing ethical considerations in their work.

What do you mean by “ethically aligned design” regarding Autonomous and Intelligent Systems?

There are many metrics of success for innovation in the Information and Communications Technologies (ICT) field – speed, functionality, ROI, and optimization of natural resources, to name a few. When we say, “ethically aligned design” in conjunction with our subtitle, *A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems*, we’re expanding the list of metrics to explicitly incorporate aspects of human and environmental well-being in an effort to reframe success so progress includes the intentional prioritization of individual, community, and societal values.

How is *Ethically Aligned Design* useful to technologists?

A primary goal of the IEEE Global Initiative is to move beyond both the fear and the uncritical admiration regarding autonomous and intelligent technologies. We believe explicitly aligning technology with ethical values will help advance innovation with these new tools while diminishing fear in the process and we’re exploring this idea in the long-term, consensus-building process we’re using to create and iterate *Ethically Aligned Design*.

To achieve these goals, each committee of The IEEE Global Initiative created documents listing specific issues around their topic area (e.g., personal data) to submit to the larger *EAD* document (for both versions of *EAD*). Then expert members listed specific (candidate) recommendations on how to address those issues. Our hope is this the insights contained in this document will help expedite the prioritization of ethical considerations within the technology and other communities focusing on these areas.

What do you mean by (candidate) recommendations in *Ethically Aligned Design*?

Ethically Aligned Design is being created via multiple versions that are being iterated over the course of two to three years. The IEEE Global Initiative is following a specific consensus-building process where members contributing

content are proposing candidate recommendations so as not to imply these are final recommendations at this time.

What impact will *Ethically Aligned Design* have on the general public?

Our goal is that this document, as it evolves to cover the necessary breadth of evolving issues and to embrace a greater variety of cultural perspectives, will be a go-to guide for technologists as they create autonomous and intelligent products, services, and systems. The ultimate result of this would mean the general public would then be utilizing technology that inherently prioritizes their well-being and values.

How is it formatted? Meaning, how should people read/use it?

The Executive Summary that opens the document is designed to provide a quick introduction to The IEEE Global Initiative and the purpose of *Ethically Aligned Design*.

Within sections, all content is then laid out in the following way:

- Introduction – this provides a brief position statement from a Committee about its section.
- Issue – this features a short description of an issue framed by a Committee.
- Background – this provides context for the issue.
- Candidate Recommendation(s) – single or multiple recommendations to address the issue.
- Resources – further reading or links to organizations that provide more insights into the issue.

Why did you release *Ethically Aligned Design* as a Creative Commons document?

We chose to release all versions of this document under the [Attribution-NonCommercial](#) version of the Creative Commons license so that any organization that would like to quote from or utilize it could do so to help expedite ethical considerations in the creation of autonomous and intelligent technologies.

Will The IEEE Global Initiative make money from this document?

No. *Ethically Aligned Design* and any of its future iterations will remain free for anyone to use under the conditions of the Creative Commons license as stated above.

Are the views of Members the views of their organizations?

No. The language and views expressed in *Ethically Aligned Design* reflect the individuals who created content for each section of this document. The language and views expressed in this document do not necessarily reflect the Universities or Organizations to which these individuals belong, and should in no way be considered any form of endorsement, implied or otherwise, from these institutions.

Where individuals are listed in Committees working on *Ethically Aligned Design*, it indicates only that they are Members of that Committee. Committee Members may not have achieved final consensus on content in this document because of its versioning format and the consensus-building process of The IEEE Global Initiative. Content listed by Members in this or future versions is not an endorsement, implied or otherwise, until formally stated as such.

On The IEEE Global Initiative's website your Mission Document talks about recommending Standards Project ideas. What is that about?

Committees creating content for *Ethically Aligned Design* have also provided ideas for Standards Projects. This process is intended to demonstrate how *Ethically Aligned Design* can provide insights into creating ideas that could mature into formal Standards.

It is important to note that The IEEE Global Initiative does not and cannot create Standards. For mainly technical subject matter (some of the standards ideas are rather legal or policy recommendations) this can be done by the IEEE-SA via an open consensus building process that can take anywhere from 2-4 years. The formal process starts with a Project Authorization Request (PAR) submitted to SASB for approval. Standards Working Groups can be joined by anyone with a material interest, further ensuring that consensus is about getting insights from the broad global AI/AS Community.

Furthermore, it should be noted that for IEEE-SA, a Standards Project idea recommended via our work cannot be formally considered until it is sponsored by an existing IEEE Society that is able to provide a governance structure for this project or - in some exceptional cases - by the SASB itself. This provides another opportunity for industry experts in these societies to weigh in on the credibility or readiness of any of our ideas before even being considered as a potential standard Working Group.

For more information about IEEE-SA Standards: [IEEE Standards University](#)

Are you the first to create a document along these lines?

No. This is why throughout *Ethically Aligned Design* Committees in The IEEE Global Initiative have worked their best to cite existing Codes of Ethics, articles, books, thought leaders, policy recommendations and other specific organizations and resources already prioritizing human-aligned values for technology.

You haven't answered my question on a particular topic.

Please [feel free to reach out](#) and we'll do our best to answer any question you may have.