



AI Ethics and the Automation Industry: How Companies Respond to Questions About Ethics at the automatica Trade Fair 2022

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Abstract

Against the backdrop of a recent history of ongoing efforts to institutionalize ethics in ways that also target corporate environments, we asked ourselves: How do company representatives at the automatica 2022 trade fair in Munich respond to questions around ethics? To this end, we started an exploratory survey at the automatica 2022 in Munich, asking 22 company representatives at various booths from various industrial sectors the basic question: “Is there somebody in your company working on ethics?” Most representatives were responding positively and tried to connect the term to pre-existing practices, processes, or organizational entities in their respective companies. Mostly, they either located ethics as being relevant to their organization on an institutional level, on a cultural level, on an inter-company level, or on a product level. This exploratory investigation has also shown that the ongoing debates and regulatory efforts about ethics in AI have not yet become a major selling point for company representatives at the trade fair.

Keywords Artificial Intelligence · Robotics · Industry · automatica · AI ethics · Business ethics · Values in design

1 Introduction

Over the last years, “ethics” has become more than just a buzzword for private sector organizations. Especially in technology companies working on AI and robotics, the term has become more and more operationalized in a variety of ways, for instance, in the form of advisory committees (Knight, 2019), managerial positions (Metcalf et al., 2019), and self-imposed codes of conduct (McNamara et al., 2018). With the proposal of the European Union (EU) AI Act, an attempt to translate prior

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ethical work into legislation is now on the horizon, based on the “Ethics Guidelines for Trustworthy AI” (Commission, 2019, 2021). Against this backdrop of a recent history of ongoing efforts that institutionalize ethics in ways that also target corporate environments, we asked ourselves: How do company representatives at the automatica 2022 trade fair in Munich¹ respond to questions around ethics? Is it a topic that company representatives can already largely account for and link to existing corporate structures and practices? Or is it still a term that requires further clarification in this context?

To this end, we started an exploratory survey at the automatica 2022 in Munich, from June 21 to June 24. We asked 22 company representatives at various booths from various industrial sectors the basic question: “Is there somebody in your company working on ethics?” To start the conversations, we introduced ourselves as researchers from the Technical University of Munich (TUM) who try to embed and integrate ethical and social aspects into AI research and development practices (McLennan et al., 2020; MIRMI, 2022) or develop standardized criteria and assessment procedures for ethics and AI (etami, 2022).

2 Findings: Four Levels of Association

When prompted with the term “ethics,” most representatives were responding positively and tried to connect the term to pre-existing practices, processes, or organizational entities in their respective companies. Only few said that there was nobody working on the topic at all or that they had no idea whether this was a matter of concern for the overall organization. Mainly, we were able to differentiate between four different associations that the representatives frequently made with the term: They either located ethics as being relevant to their organization on an institutional level, on a cultural level, on an inter-company level, or on a product level.

On an *institutional* level, we found representatives as mainly referring to the organizational structure of their company and locating the relevance of the topic of ethics in, e.g., public relations (PR), corporate social responsibility (CSR), human resources (HR), or compliance departments. Thereby, they clearly allocated the responsibility for caring about or managing ethics as a “topic” or “subject” in an organizational entity internal to their organization, hence speaking about it as something that is already covered in the overall corporate endeavor. Often described practices that buttressed this allocation within their institutions were publishing efforts of different sorts (e.g., of sustainability reports) that are visible to the stakeholders outside of the organization and that should establish some sort of transparency about the company’s internal workings.

On a *cultural* level, company representatives would allude to some social contingencies associated with the term ethics they identified as “cultural,” which also reflected for them the international nature of the organizations they belong to. Some

¹ The automatica trade fair was advertised as “[t]he Leading Exhibition for Smart Automation and Robotics” (automatica, 2022) and as a “driving force for the industry” (Wagner, 2022), hosting in its 2022 version a number of “574 exhibitors from 35 countries” (Wagner, 2022).

representatives pointed us to the fact that their company headquarters was located in a country other than the one they are working in and, accordingly, they often linked ethics to the expectations that they saw as informing the company's employees' "attitudes" or "behaviors," as forms of "good" professional conduct. Many representatives found themselves expected to share the "cultural values" of the parent company, as shared social norms that are cultivated among the company's workforce and that they often linked to the company's geographical origin. This cultural reading of ethics was especially emphasized in terms of hierarchies, everyday business practices, and a shared set of values.

On an *inter-company* level, we often heard stories about the complex relationships that the representatives' companies maintain as suppliers of other (often larger) companies or corporations and the standards that these partners expect their supplier firms to fulfill. This would include industrial standards that are enforced by third party auditing and certification processes (e.g., ISO standards), but also issues of legal compliance (e.g., corruptibility) or issues the representatives located along the supply and value chains of companies (e.g., where and how the raw material that goes into the products was exploited or whether child labor occurred at any stage of the value chain). They also ascribed a pivotal role to bigger corporations in enforcing this reading of ethics.

Lastly, on a *product* level, some representatives would refer to the design features of their products to make connections to the term ethics. As some explained to us, their products would inherently possess some ethical qualities, such as the exclusively local processing of captured sensor data or dedicated safety features implemented to avoid any physical harm for users. In these explanations, representatives would often emphasize that the design of their products would be intentionally guided by certain principles or values that in turn materialize in the products themselves.

Naturally, these four levels would frequently intersect in most of the accounts given by the representatives we talked to. For example, when we talked with the representatives of a major supplier of mechanical drives that considered itself a market leader in a certain business segment, they not only referred to how topics such as "sustainability" or "compliance" were imposed on them by their corporate customers, but also that these customers stem from a particular geographical context whose cultural values are more in line with upholding these topics in comparison to companies from other cultural contexts.

It is also noteworthy that mostly smaller exhibitors that did not present an extensive product or service portfolio, but focused on showcasing a smaller number of services or products, located ethics on the product level, in contrast to representatives from bigger companies who mainly referred to the institutional or inter-company level. To give some examples, a company that developed a computer vision system that processes biometric data for an authentication service (to unlock door systems, for example) responded to our question about ethics by emphasizing that all of the data is only processed locally and kept private (i.e., not sent to any third-party servers). Another company representative was aware of widely discussed fairness metrics (Mehrabi et al., 2021) and explained to us that the company's software product, a computer vision auditing software, aims to detect biases in recorded data sets based on these metrics.

And yet another company emphasized the small carbon footprint that their innovative cylinder has in comparison to the pneumatic cylinders that are the current state of the art and therefore widely used in manufacturing systems.

3 Conclusion: No Selling Point for the Automation Industry (Yet)?

This brief survey is naturally just a non-representative glimpse on how representatives of private sector companies respond to questions of ethics. It is also no systematic collection and analysis of data that is able to map the current ethics landscape in the automation sector. The subjects we talked to were mostly sales or marketing professionals and might not be able to account for all the work done in their respective organizations. But it was an insightful experience to use the automatica for an exploratory investigation into whether the wider debates around ethics in AI research and development have reached the consciousness of those actors that are the recipients of the many marketing efforts around machine learning, computer vision, social robotics, and other technologies commonly subsumed under the term AI. In other words, if ethics would have become a major concern, a selling point, or a set of practices and processes that industrial companies actively try to realize and implement, one would expect representatives at trade fairs to be able to account for that. This was, however, not the case for the representatives that we talked to.

Although most of the company representatives were able to account for the term ethics in one or another way, most of our conversations did not expose more substantial links to ongoing debates in the regulatory AI landscape, for instance, those around the EU AI Act that promises to have a larger impact on how private sector companies will market their AI products. One might have expected that, at least on a product level, some company representatives would use categories like “risk” or “impact” to account for the ethics behind their products or services, since both terms are so prominently used in the EU AI Act (Commission, 2021). But this has not been the case. It is also noteworthy to mention that our booth was the only one that explicitly dealt with the topic of ethics at the automatica, which is even more striking when considering that many exhibitors advertised computer vision software, around which a substantial public controversy has formed (see also Jee, 2020), or showcased so-called “cobots” that aim at a closer collaboration between humans and robots in production environments. So, if AI ethics has become a topic for the automation industry, it still remains a rather implicit one. We will see whether this will have changed until next year’s automatica.

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Declarations

Ethics Approval An ethics approval for the project “Responsible Robotics (RR-AI),” to which two of the authors (M. B. and D. T.) belong to, was obtained (Ethical Committee of the Technical University of Munich, project number 344/20 S).

Consent to Participate/Publish No written consent to participate or publish was obtained, since the commentary is based on informal conversations with company representatives at the automatica 2022 trade fair. The conversations have not been recorded, and in the text, no direct citations are used and no direct references to interviewees are made.

Competing Interests The authors declare no competing interests.

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