



MASTER THESIS

“Ethics and Neurotech”

SOPHIA KNOFF

Elite Graduate Program “Responsibility in Science, Engineering and Technology”

Technical University of Munich, February 2020

Ethics in the Neurotechnology Industry

Sophia Knopf is studying in the Elite Graduate Program Responsibility in Science, Engineering and Technology (M.A. RESET) at the Munich Center for Technology in Society (MCTS), Technical University of Munich. In her master's thesis, she explored how neurotechnology companies address questions of ethics and social responsibility and which challenges they face, especially in the context of innovation and fast-paced industries.

Neurotechnology: Promises and Challenges

Coffee, glucose drops or a walk in the fresh air are typical ideas to improve concentration and focus. But neurotechnology? Applications such as electroencephalography and transcranial direct current stimulation have emerged in science and clinical research but are increasingly implemented in products for the consumer market. Manufacturers of "consumer neurotechnology" promise broad uses of their devices, from the improvement of meditation skills to working memory enhancement and control of digital environments.

On the one hand, neurotechnology raises hope in various contexts, for instance regarding neurodegenerative diseases. On the other hand, it comes with a unique set of ethical, legal and social challenges which seem to even exacerbate with its commercialization for the consumer market. Thus, the topic raises questions around the "right" governance of innovation and emerging technologies and links to the broader discourse on the ethical and social responsibility of businesses.

The Ethical and Social Responsibility of Businesses

Based on the conceptual background of Science and Technology Studies (STS), this project is dedicated to researching questions of ethics and responsibility from an explorative perspective: How do entrepreneurs fill the notions of ethics and responsibility with meaning? How do they practically address recent claims to take more responsibility? How does this relate to the cultural and political contexts and their understanding of what neurotechnology actually entails?

This work shows how actors in the consumer neurotechnology sector construct their understanding of ethical and social responsibility. Thereby, their roles and positions are shaped by fundamental regulatory conceptualizations of their products' safety and efficacy as well as specific parameters and values of the entrepreneurial and start-up culture. The project puts novel and traditional concepts of ethical and social responsibility within the private sector in perspective and explores how universally shared values such as "responsibility" or "safety" might entail different understandings and facets of meaning.

More on "Responsibility in Science, Engineering and Technology"

🔗 <https://www.mcts.tum.de/reset/>