

## SIENNA: Technology, ethics and human rights



### Introduction

Committed to addressing the societal challenges arising from new and emerging technologies, this Arts and Humanities (AH)-led project aimed to enhance ethical and legal frameworks by including various perspectives. In a multi-layered stakeholder involvement process it reconciled the different views, interests and values of citizens, experts from practice, as well as STEM (science technology engineering and medicine) and AHSS (arts humanities and social science) researchers.

### Keywords

Ethics, law, human rights, new and emerging technologies, stakeholder involvement, ethical protocols, codes of conduct, human genetics, genomics, human enhancement, artificial intelligence, robotics

### Summary

The Horizon 2020-funded SIENNA project examined ethical and legal issues of new and emerging technologies in three areas: 1) human genetics and genomics, 2) technologies that can be used to enhance human abilities, and 3) artificial intelligence and robotics. This research team was committed to addressing societal challenges, namely the socio-economic impacts of new and emerging technologies, as well as the ethical and legal issues that arise. They acknowledged that such challenges can only be properly addressed if the diversity of views and values of both scientists and citizens are considered early in the research process.

The project has developed a methodology for reconciling the different views, interests and values of stakeholders such as ethics committees, field experts (natural and life sciences, medicine, social sciences and humanities, engineering and information sciences), human rights organisations, consumer rights organisations, patient advocacy organisations, policy-makers, regulators, professional organisations or associations, industry and the public (including non-experts).

Several stakeholder engagement elements were combined: ethical impact assessments, consultations<sup>1</sup> with experts and stakeholders, workshops with stakeholders<sup>2</sup>, public opinion surveys in 11 countries and citizen panels with lay publics in 5 countries.

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<sup>1</sup> Via semi-structured interviews

<sup>2</sup> Legal analysis workshop, foresight workshops, workshops on operational codes and guidelines



**Engaging with stakeholders will help identify relevant stakeholder interests regarding impacts of the three technological fields and help contextualize and potentially balance conflicting values. Getting stakeholder input early in the ethical impact assessment process will help make the recommendations, frameworks and codes developed in SIENNA useful and actionable.**

Rodrigues et al. 2018, p.29<sup>3</sup>

Based on the stakeholder involvement process and an analysis of existing ethical and legal frameworks, the project has developed new (complementary) elements to improve ethics protocols, professional ethical codes and legal frameworks. These findings were communicated in reports, publications in interdisciplinary, AH-oriented and STEM-oriented journals, but also in policy briefs, newsletters, blogposts, tweets and a final conference.

The project management envisaged bringing about interdisciplinary knowledge integration beyond the funding period, by generalising project methods and supporting their adaptation to other areas. Furthermore, the project team has set up a sustainability plan to ensure buy-in from stakeholders and use of results after the project ends.<sup>4</sup>

This case study illustrates how AH researchers invited STEM researchers to become involved in the improvement of ethical and legal frameworks about new and emerging technologies, but also of their own research practice. The views, interests and values of STEM researchers as well as other stakeholders were integrated by a (AHSS-developed) methodological approach which aimed to enhance ethics research protocols and professional codes for STEM research. Remarkably, the project managed to reach different research communities by publishing in interdisciplinary, AH-oriented and STEM-oriented journals.

### Further Resources

- [SIENNA project website](#)
- [Video on SIENNA Key messages](#)

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<sup>3</sup> Rowena Rodrigues, Stearns Broadhead, Philip Brey, Zuzanna Warso, Tim Hanson, Lisa Tambornino, & Dirk Lanzerath. (2018). SIENNA D1.1: The consortium's methodological handbook (Version V0.6). Zenodo.DOI 10.5281/zenodo.4247384

<sup>4</sup> The project finished whilst this piece was written in March 2021, so the success of these aims cannot yet be assessed.

