

“Responsible technologies”: a design issue for a sustainable development opportunity?

Thesis supervisors

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Thesis host Laboratory

ETIS Laboratory - Design Research Group - CY Université Cergy Paris

The ETIS laboratory (CNRS UMR8051) conducts multidisciplinary, theoretical and experimental research into the modeling of technical devices and social interactions, and into new technologies as specific environments.

Keywords

Responsibility, interactions, scenario, interfaces, collaborative design, transition design, sustainable ecosystems.

Context :

Many players claim to be developing "responsible" technologies. Even if the value of these technologies is still under scrutiny for organisations, their development is a trajectory in the medium-long term, as highlighted in the MIT report « The state of responsible technology ». Accenture and the Cercle de Giverny, in a report on "responsible technologies", explain that technology is responsible when it serves sustainable development and generates environmental and social impact. Collaboration with the ecosystem appears to be a key step in deploying responsible technologies, helping to structure convergence and transparency among players, and to increase the scalability of the impacts of applying the technology. The adoption of new practices and new forms of governance, as well as the sharing of resources and the design of a collective action plan, are among the actions recommended for the development of positive-impact digital projects.

Issue:

These players support the oxymoron that technology is a responsible player. But what does this concept of responsible technology cover?

This PhD project will explore:

- What are their properties: are they modular, scalable, etc.?
- What is their impact on the value network: components, structures and dynamics?
- Who are the artisans and players behind these so-called responsible technologies?
- How do they structure new interactions, interdependencies and interfaces?

Leveraging on Buchanan's (1992) categories of the four dimensions of design: symbols - products - interactions - systems, we'll look at how the question of responsibility - a concept of moral philosophy and law - has been and is being applied today in the design of these four dimensions.

Methodology

Empirical research: the aim is to establish typologies of artifacts, actors and practices around "responsible" technologies.

The PhD student will conduct empirical research with technology producers.

- Critical analysis of players' discourse on responsible technologies in communications
- Survey of responsible technology practices
- Analysis of a corpus of so-called responsible technologies and their properties

Research Fields

Among industrial partners of CY école de design, and to be defined with the PhD student

Méthod and planning

Actions planned for the first year

- - Corpus analysis
- - Interviews and field analysis
- - Drafting of an article (if thesis by article)

Actions planned for the second year

- Continuation of interviews
- Critical discourse analysis
- Data processing
- Article writing (if thesis by article)
- Participation in a scientific conference

Actions planned for the third year

- Writing a thesis
- Writing an article
- Participation in a scientific conference

Supervision

This thesis will be carried out as part of the "Design Research" research group within the ETIS laboratory (CNRS UMR8051) at CY université. The ETIS laboratory conducts theoretical and experimental research on complex self-learning technical and human systems. Questions of modeling technical devices and social, emotional and physical interactions, and the analysis of new technologies as specific environments, are a major focus of multi-disciplinary research.

The aim of the "Design Research" group is to analyze emerging design practices that support the infrastructures required for ecological transition. The focus on transitional design enables us to analyze the ethical and technical dimensions linked to problems of scaling up, transdisciplinarity and long-term social commitment. The aim is to understand, create and test methodologies, devices, tools and services that enable sustainable development.

This PhD project will be supervised by Annie Gentes and Giulia Marcocchia (50%-50%).

Annie Gentes is a university professor of design, information and communication sciences. After 20 years as director of the Codesign Lab at Telecom Paris and member of the executive committee of the CNRS I3 laboratory (interdisciplinary innovation institute), she has been, since October 2021, director of research at CY Ecole de design, CY Université Cergy-Paris, member of the ETIS laboratory, UMR CNRS 8051. Her research focuses on the materiality and generativity of design practices, as well as on the tools and evolutions of collaborative design. In particular, she works on the scaling-up of codesign methods to facilitate the creation of new sustainable eco-systems (territorial design, design and public policies around disability, design and complex systems in corporate transition within the framework of CSR). She also studies the epistemology of design as a multi-disciplinarity in practice, bringing together the humanities, social sciences and engineering sciences. With LPI (Learning Planet Institute), she co-directs the Lindda project with INRIA and INRAE: Living INfrastructure to Design responsible Digital technology for Agroecological transition. The research project examines the forms and challenges of design in collectives around agro-ecological transition.

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Giulia Marcocchia is a researcher and Associate Professor at CY école de Design, in France. Having begun her professional career in the automotive industry, and holding a PhD in innovation management from TelecomParis, she has led research projects at national and international level for i3, Institut Interdisciplinaire de l’Innovation (UMR 9217) attached to the CRG management research center, Ecole Polytechnique France, for Strate Ecole de Design France, and CAMI, Ca’ Foscari, Italy. Her research focuses on the process of co-creation between stakeholders in the exploration of the unknown towards the emergence of an innovation ecosystem. She studies the processes involved, as well as the media to achieve them: documents, communication situations, technologies and intermediate design objects. Her teaching and pedagogical engineering experience includes first-year to Executive-level courses in innovation management, organization theory, design management, strategy by design, value network design, platform design and design methodologies. The institutions she has taught at are IP Paris, SciencesPo, Strate in France and the CIM4.0 Competence Industry Manufacturing 4.0 in Italy. She is a member of the steering committee of the Design Practice SIG, Design Society, and scientific manager of the CIM4.0 Academy.

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