Politecnico di Torino

Honors Thesis

Master's degree SYSTEMIC DESIGN

Abstract

Sorso: the portable, modular, and open coffee machine that goes with you

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The thesis focuses on the development of Sorso, a portable, modular, and open source coffee machine designed to provide a high-quality extraction experience for people who travel, practice outdoor activities, or work in remote contexts. The project originates as an evolution of the work carried out during the Product Components course in the 2024–2025 academic year, with the aim of further exploring and improving the technical, functional, and systemic solutions already examined in the initial phase.

The work is structured as a comprehensive process, integrating the design of the device, visual identity, communication strategies, and participation in events, involving experts from the coffee sector. Through user research, target definition, study of specialty coffee, and analysis of competing products, several design opportunities emerge that guide the development of an open-source concept capable of addressing real needs through a system of customizable and accessible components.

The project takes shape in the design of a portable, modular, open-source device composed of 3D-printable parts and easily sourced components. The goal is to make Sorso fully assemblable and customizable thanks to the open sharing of documentation and resources. This strategy encourages the development of an active and participatory community, in which each member's creativity and technical expertise contribute to the project's evolution and continuous improvement.

Prototyping makes it possible to verify ergonomics, functionality, usability, and the consistency of the modular system, while the final economic analysis examines production feasibility and potential costs, outlining future development scenarios and possible commercial scalability strategies through open-design tools.

The thesis demonstrates how a portable device can become not only a product but an open, evolving, and replicable model capable of growing thanks to user participation and knowledge sharing. In this way, Sorso positions itself as a concrete contribution to the contemporary debate on modularity, open design, and sustainability, highlighting the potential of envisioning technical products as collaborative platforms in continuous transformation.

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