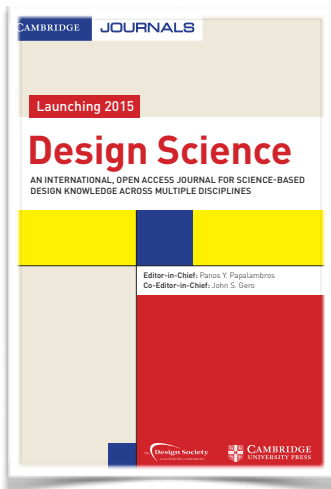# DESIGN SCIENCE JOURNAL
THEMATIC COLLECTION

OPEN DESIGN
Open Source Hardware Product Development

Submission Deadline
30 Nov. 2020

For additional topics and other questions regarding this collection please contact the Guest Editors:

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Following the success of Open Source Software, Open Source Hardware (OSH) is emerging as an important topic for both industry and academia. There is general agreement that this emergence is due to the conjunction of two main socio-technical factors: (a) democratization of digital manufacturing and FabLabs or hacker spaces and (b) democratization of social networks and digital collaboration through the internet. The demand for more citizen participation in the political decisions and the construction of a sustainable future for our society plays also a crucial role in this emergence.

Scientific study of OSH is still limited. Characterizations of OSH participation, motivations, organization, and processes are all at a preliminary stage although there is some promising research work and also the creation of observatories such as the OSH Association or the P2P Lab.

Open Design is a radical way to conceive the creation, production, distribution, and use of products and services in a sustainable way; it challenges the traditional industrial domain by proposing a decentralized, highly collaborative type of organization where participation is based on voluntary engagement and personal values. Decision making is based on "do-cratic" principles — the one who does, decides. Yet, product development follows some intangible rules as well. Thus, one can raise questions such as: How are traditional engineering and design knowledge transformed by the new OSH environment? Or, is the OSH model incompatible with traditional business approaches?

The articulation of business models and value creation is a real question today for OSH players. The OHS communities seek sustainable models where ethical and environmental values are preserved. The sharing economy challenges the traditional models of industrial property and raises fundamental questions on the benefits one gets from developing open source products.

This thematic collection aims at stimulating research in the domain and creating a forum for debating on this emerging and very vibrant phenomenon. High quality scientific contributions are required to set up the knowledge baseline of open source hardware design and contribute to its development and democratization.

Theme Topics

- Models and methods for OSH design
- Business models for OSH products
- IT tools and software for OSH development
- Case studies of OSH projects
- Analysis of emerging OSH practices
- Sustainability of OSH production models
- Frugal innovation and open design
- IP issues of OSH