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Menichinelli, Massimo; Bianchini, Massimo; Maffei, Stefano

Editorial: Open Distributed + Design Production: Design Strategies for Enabling Indie Designers and Makers

Published in:
Strategic Design Research Journal

DOI:
[10.4013/sdrj.2020.131.01](https://doi.org/10.4013/sdrj.2020.131.01)

Published: 01/07/2020

Document Version
Publisher's PDF, also known as Version of record

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Please cite the original version:
Menichinelli, M., Bianchini, M., & Maffei, S. (2020). Editorial: Open Distributed + Design Production: Design Strategies for Enabling Indie Designers and Makers. *Strategic Design Research Journal*, 13(1), 1-5.
<https://doi.org/10.4013/sdrj.2020.131.01>

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SD
RJ

STRATEGIC
DESIGN
RESEARCH
JOURNAL

Volume 13 / Number 01
January - April 2020

**SDRJ SPECIAL ISSUE: OPEN & DISTRIBUTED + DESIGN & PRODUCTION.
DESIGN STRATEGIES FOR ENABLING INDIE DESIGNERS AND MAKERS**

The introduction of ICT and open, peer-to-peer and distributed systems in the design world has generated several changes: from the rise of new kinds of designers (indie, amateur, makers, ...) to the emergence of new processes for developing projects (open design, distributed design, ...). Furthermore, the design of an artifact and its production are increasingly closer for designers: after years where production was outsourced almost completely and the role of designers limited to delivering preliminary CAD files, now they are more and more engaged with a production that is more accessible, distributed and open for experimentations. For these reasons we call this phenomenon Open & Distributed + Design & Production, where both designing and making can be open and distributed to new ecosystems of innovation.

The evolution of Open and Distributed Design and Production can already be measured over decades, with many initiatives by both professionals and researchers, and its themes have already been discussed in several conferences, magazine issues and research projects. It is a phenomenon that has already emerged from its pioneering and evangelist phase, which is discussed and studied by different disciplines and also by design researchers: most of these contributions have explored its beginnings, its main features and main expectations about its future development and impact. It is commonly considered that the starting point of the Maker movement can be traced to 2005, with the launch of MAKE Magazine and of Arduino. Now, 15 years later, the Maker movement has achieved many milestones, but it has also witnessed several problems: important maker initiatives have closed (Techshop) or have closed and have relaunched (MAKE Magazine). The Maker movement has fulfilled some of its initial promises, but has also missed other ones, and we think it is time to understand what could be improved in it.

An example of this can be seen in the makers' reaction to the COVID-19 situation. A few months after the worsening of the crisis on a global scale, it became clear at all latitudes, much more so than in the previous decade, that a global community of independent makers and designers has been able to adapt quickly to the new reality, by self-organizing and designing open source solutions that can be implemented through distributed manufacturing networks. The developed projects include: masks and visors, components for respirators and

open source respirators, prostheses to operate handles, traffic lights, dispensers without using hands.

Did these makers, indie designers and innovators commit mistakes? Of course they did. But the COVID-19 crisis has taught us three things about open design and distributed production. The first one concerns the maintenance of the professional vitality and experimental nature of the Maker movement and independent designers and innovators, which in recent years had begun to exhaust its propulsive drive, crystallizing in the search for a sustainable place in the market and society. The second one underlines the usefulness of open and distributed production design models not as alternative systems to the world of industry and services but as complementary systems to them. The third one certifies the need to implement the scientific, strategic and organizational skills of the communities of independent makers and innovators and the Fab Lab networks making them actors with a more defined and integrated role with the world of production, research and policymaking.

Discussions on the Open & Distributed + Design & Production phenomenon could and should be more strategic by focusing more on how to become more structured and prepared for the long term or for major challenges, rather than focusing only on exploring common features and how to scale it without thinking about a long term strategy. We launched a call for papers to promote this discussion by especially welcoming proposals that address the existing critical issues of the Open & Distributed Design & Production phenomenon and their connections with Strategic Design: how these critical issues have an impact on Strategic Design, and how could Strategic Design have an impact on Open & Distributed Design & Production?

This special issue of Strategic Design Research Journal on Open & Distributed + Design & Production presents six papers framing the evolution of production models from different perspectives: the transformation of designers' skills, the evolution and democratization of open design and distributed production processes, the access and engagement of user communities, the need of appropriate business models.

Viktor Malakuczi, starting from the observation of the scarce presence of "indie made" products, explores the development of possible design strategies to increase the level of democratization of digital manufacturing. *Katrien Dreessen* and *Selina Schepers* start their scientific contribution from the consideration that despite the growing offer of spaces and technologies for digital fabrication the involvement and participation of non-expert users in the practices is still problematic. Their article therefore proposes a reflection on user

engagement strategies focusing on the role of mediators and enablers of designers and researchers in design.

Starting from the theme of the mismatch between real and potential accessibility of spaces and resources for digital manufacturing, *Juliana Faludi* examines the composition of different hybrid business models related to the field of distributed production - fablab, makerspace, hackerspace and a 3D printer manufacturer - with the aim of understanding how they can be linked to the education and innovation practices carried out by the urban communities of users, makers and designers (more specifically, the case of Budapest).

Silvia Gasparotto analyzes the evolution of Open Design and Open Manufacturing in the last two decades studying three best practices - Instructables, OpenStructures and Precious Plastics - in order to identify future design strategies for making and indie design.

Massimo Bianchini and *Stefano Maffei* address the evolution and empowerment of professional, organizational, technical and design skills of designers in the transition to the so-called Fourth Industrial Revolution, with particular reference to the emergence of new and hybrid forms of design agency and the development of new skills related to experimental learning.

Finally, *Massimo Menichinelli* proposes a framework for assessing the impact of Maker initiatives over city resilience and well-being in order to support future practice and research in design and making that can assess, measure and promote its impact in order to communicate to all stakeholders which promises of the Maker movement have been fulfilled.

Designers' practices have constantly evolved in the last two centuries, and during the last decades new technologies, processes and approaches have influenced them. The Maker movement can be considered as a case in this direction, thanks to its technologies, processes, approaches but also ecosystems of local and global communities. As any promise of a revolution, it should always be evaluated and its course corrected if such promises are not reached or we should readjust the aim. With this special issue we focused on this task, and the contribution of the authors show that potential strategies for this can be found in understanding the new necessary skills for designers to approach this movement by increasing the level of democratization through the participation of non-expert users in the practices while experimenting with learning and assessing the impact of all of these.

Massimo Menichinelli, Massimo Bianchini, Stefano Maffei
Special Guest Editors

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