

book  
series



diid  
disegno industriale › industrial design

Design 2030: Practice

# 72/20



diid

disegno industriale › industrial design

# Design 2030: Practice

Design has been recognized as a discipline of doing. Its practical dimension has always exceeded the theoretical one, and the second has always placed the first at the centre. If this assumed a connotation of certainty in the context of the 20th century, today, in the contemporary world, is the Design dimension of

doing still valid? How the applied dimension of this knowledge has to be expressed? Can the "profession" of the designer specialized in product categories still valid? What space will it occupy between the professions of the future? What should be its relationship with production and consumption systems?

The issue 72 of **diid** opens up to those applied experiments where Design, within the laboratories and in the places of production, is outlining a different nature and prefigures a new role in and for society.

Loredana Di Lucchio, Lorenzo Imbesi, Sabrina Lucibello

Alberto Bassi, Patrizia Bolzan, Daria Casciani,  
Mariana Ciancia, Andrea Coccia, Giovanni Maria Conti,  
Michele De Chirico, Barbara Del Curto, Loredana Di Lucchio,  
Venere Ferraro, Gian Andrea Giacobone, Angela Giambattista,  
Slivia Imbesi, Giovanni Innella, Sarvpriya Raj Kumar,  
Giuseppe Losco, Sabrina Lucibello, Viktor Malakuczi,  
Michele Marchi, Giuseppe Mincoelli, Maurizio Montalti,  
Martina Motta, Davide Paciotti, Flavia Papile, Francesca Piredda,  
Gabriele Pontillo, Marco Ronchi, Maria Antonietta Sbordone,  
Chiara Scarpitti, Manuel Scortichini, Carlo Emilio Standoli,  
Mila Stepanovic, Carlo Vinti,

ISSN 1594-8528



9 788832 080506



# **Design 2030: Practice**

**diid**  
**disegno industriale | industrial design**  
Journal published every four months

**Fondata da | Founded by**

Tonino Paris  
Registration at Tribunale di Roma 86/2002 in the 6th of March 2002

**N°72/20**

**Design 2030: Practice**

**ISSN**

1594-8528

**ISBN**

9788832080506

**Anno | Year**

XVII

**Direttore | Editorial Director**

Tonino Paris

**Comitato Direttivo | Editors Board**

Mario Buono, Loredana Di Lucchio, Lorenzo Imbesi, Francesca La Rocca, Giuseppe Losco, Sabrina Lucibello

**Comitato Scientifico | Scientific Board**

Mariana Amatullo, Vice Provost, Global Strategic Initiatives Parsons School of Design, (USA)  
Andrea Branzi, Emeritus Professor, Politecnico di Milano, (Italy)  
Flaviano Celaschi, Full Professor, Università degli Studi di Bologna "Alma Mater", (Italy)  
Dijon De Moraes, University Rector, Estado de Minas Gerai, (Brazil)  
Giuseppe Furlanis, President, Consiglio Nazionale per l'Alta Formazione Artistica e Musicale, (Italy)  
Sebastián García Garrido, Professor, Universidad de Málaga, (Spain)  
Claudio Germak, Full Professor, Politecnico di Torino, (Italy)  
Christian Guellerin, Executive Director, L'École de design Nantes Atlantique, (France)  
Stefano Marzano, Founding DEAN, THINK School of Creative Leadership, (Netherlands)  
Fernando Moreira da Silva, Full Professor, Universidade de Lisboa (Portugal)  
Raquel Pelta, Professor, Universidad de Barcelona (Spain)  
Bruno Siciliano, Full Professor, Università degli Studi di Napoli Federico II, (Italy)  
Francesca Tosi, Full Professor, Università degli Studi di Firenze, (Italy)

**Comitato Editoriale | Editorial Advisory Board**

Luca Bradini, Sonia Capece, Carla Farina, Andrea Lupacchini, Enza Migliore, Federico Oppedisano,  
Lucia Pietroni, Chiara Scarpitti, Carlo Vannicola, Carlo Vinti

**Redazione Roma | Editorial Staff**

Luca D'Elia, Paride Duello, Carmen Rotondi

**Caporedattore | Editor In-Chief**

Carla Farina

**Progetto grafico | Graphic Layout**

Marc Sánchez (Blacklist Creative)

**Curatore | Guest Editor diid 72**

Loredana Di Lucchio, Lorenzo Imbesi, Sabrina Lucibello

## Index

### Editorial

Design 2030: feasible practices for the next future > Tonino Paris 4

### Think

A sense of time for design > Alberto Bassi 8

Resilient Professions. When Design practices become responsible  
> Loredana Di Lucchio, Angela Giambattista 18

Beyond human – new Paradigms of active collaboration in Design  
> Sabrina Lucibello, Maurizio Montalti 26

The value of design practices in scientific research: 5 paradoxes  
> Giovanni Innella, Chiara Scarpitti 34

The fifth dimension of interaction design: conversation with Gillian Crampton  
Smith and Alessandro Masserdotti > Giuseppe Losco, Davide Paciotti,  
Manuel Scortichini, Carlo Vinti 42

Think gallery > Design 2030: People, Users, Designers > Luca D'Elia 50

### Make

Focused practices for future changes > Giovanni Maria Conti, Martina Motta 70

New places of design: nomadic workshops > Michele De Chirico 80

Prototype-Driven Design in the IoT Age > Giuseppe Mincoelli, Michele Marchi,  
Silvia Imbesi, Gian Andrea Giacobone 88

Avant-garde CAD: Generative Design > Sarvpriya Raj Kumar, Viktor Malakuczi 96

Design Interstitial practices > Carlo Emilio Standoli, Daria Casciani, Patrizia Bolzan 104

Make gallery > Design 2030: Thinking, Tinkering, Thinkering > Carmen Rotondi 112

### Focus

AI, Design Fiction, and Critical Thinking > Venere Ferraro, Mila Stepanovic 128

Designer Pollinator: a case study > Flavia Papile, Andrea Coccia, Barbara Del Curto 136

Design Practice for Transformation > Marco Ronchi, Mariana Ciancia,  
Francesca Piredda 144

Design and different ways of "doing" technologies > Maria Antonietta Sbordone,  
Gabriele Pontillo 152

Focus gallery > Design 2030: Spaces, Factories, Labs > Paride Duello 162

### Prototype-Driven Design in the IoT Age

The complexity involved in developing increasingly smart and interoperable objects, typical of the Internet of Things, is determining new dynamics of interaction between humans and artefacts, prompting us to rethink prototyping methods and practices. With the traditional conception of “doing design”, prototyping refers to an activity that allows designers to assess the validity of a specific design outcome, whilst nowadays, this practice is becoming a driver in the theoretical, methodological and experimental development of both human-centred design and participatory design, in at least two different ways. On the one hand, the prototype is used as a collaborative toolkit for idea generation or to boost co-creation between users and designers. On the other, the prototype becomes a smart object and partner of the designer, capable of co-designing innovative solutions in response to modern complexities or even of defining new alternatives for future research, at the same time prompting reflection on possible implications of digital technology that are not immediately evident. Many changes are shaping a central role for prototyping in the various operating contexts of design. This paper reflects on the opportunities created by the prototype-driven approach, analysing three projects that utilize prototypes from three different perspectives: the prototype as a project guide, as a co-ethnographic agent, and thirdly as a provocateur. Finally, the article considers the potential of these new interpretations of the role of prototypes to foster a fresh design perspective aimed at generating new forms of value.

[ prototyping, design research, human-centred design,  
co-design, internet of things ]

**Giuseppe Mincolessi, Michele Marchi,  
Silvia Imbesi, Gian Andrea Giacobone**

Associate Professor, University of Ferrara  
PhD Student, Research Fellow, University of Ferrara  
PhD Student, University of Ferrara  
PhD Student, Research Fellow, University of Ferrara

> [giuseppe.mincolessi@unife.it](mailto:giuseppe.mincolessi@unife.it) [michele.marchi@unife.it](mailto:michele.marchi@unife.it)  
[silvia.imbesi@unife.it](mailto:silvia.imbesi@unife.it) [gianandrea.giacobone@unife.it](mailto:gianandrea.giacobone@unife.it)

Rapid advances in technology are causing radical changes in the contexts in which design is active. The key changes are due to the impact of digital transformation on human activities and on product dematerialization and transition towards increasingly intangible, digital services. In particular, the complexity generated by the Internet of Things paradigm is determining new dynamics of interaction between humans and artefacts, prompting us to rethink prototyping methods and practices. On this basis, the article aims to examine the prototype through recent redefinitions of its role, in order to identify those capable of determining new human-centred design methods. Specifically, the paper discusses the opportunities offered by the prototype-driven approach through analysis of three projects that adopt this model in different ways.

#### *Prototype evolution*

From the traditional perspective of Industrial Design, the prototype is considered as a tangible synthesis of all conceptual design thinking – charged with design knowledge and practical mastery (Lim *et al.*, 2008) – that designers use for product ideation (Cross, 1999). Normally, the technical and morphological qualities of the prototype are necessary to assess compliance with market demands or expected requirements deriving from manufacturing constraints. With User-Centred Design (UCD), the prototype takes on a new role in applied research design because it permits the progressive refinement of a specific concept through iterative development based on interaction with users. Such a model can identify and answer unexpected questions that arise only through interaction between user and artefact (E. Zimmerman, 2003). Therefore, UCD works in harmony with the methodological approach of applied science and the prototype becomes a practical exploratory tool, e.g. a low-fidelity mock-up of an interface, for implementing design knowledge (Stappers & Giacobone, 2017) to generate or analyse data, hypotheses, theories or design methods (Wensveen & Matthews, 2014).

The successive expansion of design into new areas, such as services and systems, requires designers to deal with a multitude of new economic, technological and social factors, which consequently impose a different – more organic, multidisciplinary and flexible – methodological approach (Mincolessi, 2017), but above all require the active participation of a wide range of co-designers, no longer considered as mere users or stakeholders. In this new context, termed “diffuse design” by Manzini (2015), expert designers and non-designers reformulate the UCD process in the participatory approach of co-design and promote prototyping as the core element in the generation of knowledge, creativity and innovation in all areas of design research. The designer, acting here as a facilitator, enables the prototype to become an experimental research driver to identify and anticipate emerging phenomena or latent needs that have not yet reached maturity. This is done by stimulating users to develop innovative solutions through a collective and participatory vision of the future (Codarin & Giacobone, 2019). For this purpose, the designer transforms the character of the prototype

into toolkits, namely a series of artefacts capable of involving users in co-design by facilitating the manifestation of their creativity (Sanders & Stappers, 2014).

In recent years, prototyping has become increasingly connected with design-oriented research due to the opportunity of transforming both prototype and processes for its realization into true experimental research products (Odom & Wakkary, 2015). Indeed, Gaver argues that much of the knowledge generated by a design approach is not readily transformed into a verbal abstraction of a particular concept but instead is better conveyed through inherent qualities of the prototype itself (2012). For this reason, starting from the three terminological distinctions of “doing research” in design established by Frayling (1993), other authors (J. Zimmerman *et al.*, 2007) identify Research-through-Design (RtD) as a valid contemporary research model. This is because the methodological process itself is characterized by a learning-by-doing strategy and is led by a prototype-driven approach. The prototype is assigned a guiding role in research because during its development designers and users can identify problems, explore hypotheses or co-design new solutions for particular social challenges or questions related to specific research topics (Stappers & Giaccardi, 2017).

#### *From prototype to smart thing*

The recent Internet of Things paradigm offers designers the chance of investigating a new type of artefact – smart objects – operating in the context of progressive integration between humans and computational objects within everyday social practices and characterized by an increasing capability to sense and adjust the surrounding environment. The distinguishing characteristic of these objects is an ability to act, react and interact in a specific context without human control, through dialogue with other similar objects mediated by Artificial Intelligence (AI) decision-making systems (Celaschi, Di Lucchio, & Imbesi, 2017; Rozendaal, Boon, & Kaptelinin, 2019). Therefore, if the practice of co-design has so far been based solely on the cognitive and practical abilities of humans, today RtD takes on a new role where the prototype is able to co-participate in the design process as an active design partner, almost as important as humans themselves. The information processing capacity provided by these smart objects allows data itself to become the raw material of new design practices (Zannoni, 2018). Indeed, data generated or processed by prototypes can be merged with that produced by human participation to foster new ideas or facilitate particular decision-making processes during the design phase. This is because smart objects can use digital filters to identify particular patterns of interaction or behavioural trends in their datasets that were previously concealed or not immediately recognizable to the human eye (Giaccardi *et al.*, 2016). The capability to monitor the context through mathematical models processed directly by the prototype also offers opportunities for new RtD studies, not only for analysis of the current context but also for simulation of future scenarios.

On the basis of these considerations, we explain our exploratory research experiences regarding new prototyping applications in RtD, particularly emphasizing the impact

of digital technology on research practice, results and the dynamics of interaction with the individuals involved.

#### *Prototype as a project guide*

In cutting-edge co-design practices, the main role of the prototype is to guide the design process in the identification and experimentation of solutions that can be used to respond to specific problems or needs. The prototype can have different functions and intentions, based on the purpose of the specific research: it can be used to develop theories, confirm or re-examine hypotheses, establish the scope of a project or even anticipate unexpected design spaces. Each of these functions can be investigated thanks to an iterative and participatory prototyping process, which begins with visualization of the life experiences of users and proceeds, in a sort of cyclical spiral, towards the generation of new ideas for the future (Stappers, 2007). In particular, the direction of design is determined by the physical manifestation of the prototype, which can generate contextual knowledge through interaction with people. The prototyping experimentation of “Inception”, a European research project funded by the Horizon 2020 programme, was based on these principles and aimed at creating a virtual and open-source platform to make Europe’s cultural heritage accessible through digital 3D architectural models. The overall layout of the platform, from its architecture to definition of the individual components and methods of interaction, was also generated through co-design workshops, in which the designers and a large and varied panel of international stakeholders worked together in order to define the key aspects of the user experience, using specially developed prototype toolkits. The toolkits consisted of sets of cards describing actions or functions related to the service. These enabled users to generate multiple and heterogeneous solutions, while ensuring alignment between the direction of the process and the goal set for the research. In the end, ongoing interaction and manipulation of prototypes by users allowed a generation of unexpected results compared to the objectives set at the beginning of the project, as the process allowed users to be included in the design phase that otherwise would only have participated in the project through surveys or interviews. Considering that “Inception” has the objective of increasing accessibility and inclusion in the cultural heritage field, the co-design phase was based on a translingual and transcultural toolkit that must be considered not only for its effectiveness, but also for its intrinsic inclusivity.

#### *Prototype as a co-ethnographic agent*

Unlike the first category, where prototypes are always developed by manifesting a human perspective, there are cases where such objects, in the form of smart objects, are independent actors and actively participate in the design process. In this way, prototypes become powerful tools that can act, together with the designer, as social observers or co-ethnographers, helping to process data collected through interaction with people to generate frameworks, analyses and plans that allow identification

of behaviours and behavioural trajectories that would otherwise be invisible to the human eye. In this case, the prototype is no longer simply a research support for the verification of human assumptions, but instead allows enrichment of the design process thanks to the integration of the human perspective with that deriving from data collected by sensors and processed by software. This helps research reduce cognitive *bias* and avoid conditioning of a preconceptual nature.

The concepts described above can be identified in the two-year “Habitat” project funded by POR-FERS of Emilia Romagna, involving the creation of an IoT platform and reconfiguration of common objects as smart objects. The aim was to monitor a self-sufficient elderly person in his or her home environment, in order to provide useful tips for a healthy lifestyle, independence and personal fulfillment. The experimentation of such devices, mainly aimed at evaluating usability and methods of interaction, was useful as a true anthropological analysis because it allowed observation of relationship dynamics linked to development possibilities that had not been identified during the previous analysis. In essence, the continuous and non-judgmental interaction of smart objects with users enriched the project with otherwise undetectable data and allowed the development of new lines of research.

#### *Prototype as a provocateur*

In previous cases, the prototype is used to experiment solutions aimed at solving problems. Instead, in the last example, this object is used as a diegetic tool to stimulate questions about the future through Speculative Design. This modern discipline resorts to prototypes that are not necessarily realistic, nor aimed at verifying performances that are set in future scenarios, hypothesized on the basis of current trends, through which the designer can conduct ethical-social evaluations of hypothesis that are difficult to describe otherwise. The objective of the prototype is not to demonstrate what is possible today, but to develop pervasive and immersive narrations, as possible alternatives of a credible and desirable future to trigger the critical debate, revealing problems, ethical or moral conflicts, in order to improve the integration of technology in daily life (Dunne & Raby, 2013).

This category was used in “Pleinair”, a still ongoing two-year research project, also funded by the POR-FERS program of Emilia Romagna, which involves the construction of an IoT public park, to promote the adoption of active lifestyles for all age groups, in order to encourage – through the design of specific artificial Outdoor Smart Objects (OSO), street furniture and recreational tools – physical activity, conviviality and socialization between people. Being an unprecedented project in which it is not possible to imagine and foresee the technological consequences of the IoT model, several connected prototypes defined with the criteria of the Speculative Design are under construction, in order to simulate possible scenarios through the direct interaction with real users. This experimental report is able to generate innovative data and dynamics, therefore can act as a truly critical element of investigation to verify the implications of future scenarios in the present, which, otherwise, would be unthinkable with traditional

design methods. The COVID-19 emergency has occurred at the peak of the prototypes’ development phase. As a consequence, the provocative prototypes are readjusted to allow an efficient remote interaction, producing a simulation within the simulation, even opening a new perspective on the role of the prototype in the practice of the remote Speculative Design.

#### *Conclusion*

Taking into account the three mentioned examples, it is easy to understand how technological evolution is shifting the practice of prototyping, especially in the IoT field, towards a role of absolute strategic importance within any contemporary participatory design process. Compared to the past, the prototype is multifunctional and multiform as it is able to adapt to the different intentions of a specific research: for “Inception” it is a dialogue interface to guide the project, for “Habitat” it is an ethnographic observation tool, for “Pleinair” it is a provocateur that stimulates design considerations. Furthermore, the comparison between the first and the other two projects shows how the RtD design logic – especially addressed to the construction of IoT scenarios – is no longer limited to investigate only the technical-morphological aspects of a specific prototype, but directs the focus on the impact of an object on the context and behavioural dynamics of the people who are settled in. The «smart» prototype simplifies the modeling of the experiment and the collection of data in the RtD, and allows the adoption of more sophisticated and more suggestive processing tools.

Sharing the statements of Giaccardi (2019), it is observable how this shift of value towards data is leading to configuring the research in a new and alternative way compared to the past, through three main aspects. The first one underlines a mutation of the role of the prototype: from an object of study that enables and embodies the ideas and will of the individual (e.g. “Inception”), the artifact becomes a potential partner in the construction of meaning (e.g. “Habitat” and “Pleinair”), as, in an IoT scenario, it becomes an active and independent actor in the development of a project thanks to its purely artificial qualities. The second aspect identifies a transformation of the way the design is carried out: if in “Inception” co-design is understood as an interactive practice, circumscribed in a well-defined space and time such as those of a workshop, in “Habitat” and “Pleinair”, the phenomenon IoT is able of decentralizing this practice by expanding it over time, throughout the development process, and in space, allowing the remote interaction. Effectively, thanks to a «sustained» interaction between users and prototype it is possible to explore new research opportunities through the hidden information, which is only obtained observing the evolution of the complementarity between anthropic and artificial space (Kuijjer & Giaccardi, 2018). Finally, the third point highlights the change in the value of the knowledge that is generated by the prototypes themselves: the meaning of each described project is no longer achievable only through an ex-post prototypes’ evaluation in relation to the expected objectives of the research, but is directly generated within and during the design process itself. This because the developed values cannot be entirely placed a

priori by the human thought, but they are generated, in an unpredictable way, during the open and changing dialogue between artifacts and users.

In conclusion, thanks to the evolution of design practices, we can observe an opening towards intervention spaces in which even the methodologies associated with the anthropocentric logics of the Human-Centred Design start finding a new ontological perspective, where the artifact is not only subordinate to human practices, but also takes on a symmetrical and independent role in relation to the individual (Cila *et al.*, 2017). For this reason, the prototype will require greater design attention, in a thing-centred perspective (Giaccardi *et al.*, 2016), through which non-human issues can be solved, in order to make the collaboration between the actors of the system more effective and, above all, to increase the co-performance capabilities originated from the data obtained from the artifacts to imagine new design solutions.

## Reference

- > Celaschi, F., Di Lucchio, L., & Imbesi, L. (2017). Design e Phigital Production: Progettare nell'Era dell'Industria 4.0. *MD Journal*, 4(1), 6-11.
- > Cila, N., Smit, I., Giaccardi, E., & Kröse, B. (2017). Products as Agents: Metaphors for Designing the Products of the IoT Age. *Proceedings of the 2017 CHI Conference*, 448-459.
- > Codarin, S., & Giacobone, G.A. (2019). User Redemption: l'evoluzione dei non-designer nella progettazione contemporanea. *Officina\**, 27, 54-57.
- > Cross, N. (1999). Design Research: A Disciplined Conversation. *Design Issues*, 15(2), 5-10.
- > Dunne, A., & Raby, F. (2013). *Speculative Everything: Design, Fiction, and Social Dreaming*. Cambridge (Massachusetts): MIT Press.
- > Frayling, C. (1993). Research in Art and Design. *Royal College of Art Research Papers*, 1(1), 1-5.
- > Gaver, W. (2012). What Should We Expect From Research Through Design? *Proceedings of the 2012 CHI Conference*, 937-946.
- > Giaccardi, E. (2019). Histories and Futures of Research through Design: From Prototypes to Connected Things. *International Journal of Design*, 13(3), 139-155.
- > Giaccardi, E., Speed, C., Cila, N., & Caldwell, M. L. (2016). Things as Co-Ethnographers: Implications of a Thing Perspective for Design and Anthropology. In R.C. Smith, K.T. Vangkilde, M.G. Kjaersgaard, T. Otto, J. Halse, & T. Binder (Ed.), *Design Anthropological Futures* (pp. 235-248). London: Routledge.
- > Kuijer, L., & Giaccardi, E. (2018). Co-performance: Conceptualizing the Role of Artificial Agency in the Design of Everyday Life. *Proceedings of the 2018 CHI Conference*, 1-13.
- > Lim, Y.K., Stolterman, E., & Tenenber, J. (2008). The Anatomy of Prototypes: Prototypes as Filters, Prototypes as Manifestations of Design Ideas. *ACM Transactions on Computer-Human Interaction*, 15(2), 1-27.
- > Manzini, E. (2015). *Design, When Everybody Designs: An Introduction to Design for Social Innovation*. Cambridge (Massachusetts): MIT Press.
- > Mincoletti, G. (2017). Fabbrica Digitale e Innovazione: il Progetto di un Corso di Laurea in Industrial Design come Occasione di Riflessione sul Futuro del Progetto. *MD Journal*, 4(7), 86-99.
- > Odom, W., & Wakkary, R. (2015). Intersecting with Unaware Objects. *Proceedings of the 2015 C&C Conference*, 33-42.
- > Rozendaal, M. C., Boon, B., & Kaptelinin, V. (2019). Objects with Intent: Designing Everyday Things as Collaborative Partners. *ACM Transactions on Computer-Human Interaction*, 26(4), 1-30.
- > Sanders, E.B.N., & Stappers, P. J. (2014). From Designing to Co-designing to Collective Dreaming: Three Slices in Time. *Interactions*, 21(6), 24-33.
- > Stappers, P. J. (2007). Designing as a Part of Research. In R. Van Der Lugt & P. J. Stappers (Ed.), *Design and the Growth of Knowledge* (pp. 12-17). Delft: StudioLab Press.
- > Stappers, P.J., & Giaccardi, E. (2017). Research through Design. In M. Soegaard & R. Friis-Dam (Ed.), *The Encyclopedia of Human-Computer Interaction, 2nd Edition* (pp. 1-94). Copenhagen: Interaction Design Foundation.
- > Wensveen, S., & Matthews, B. (2014). Prototypes and prototyping in design research. In P. A. Rodgers & J. Yee (Ed.), *The Routledge Companion to Design Research* (pp. 262-276). London: Routledge.
- > Zannoni, M. (2018). *Progetto e interazione. Il design degli ecosistemi interattivi*. Macerata: Quodlibet.
- > Zimmerman, E. (2003). Play as Design: the iterative design process. In B. Laurel (Ed.), *Design Research. Methods and Perspectives* (pp. 176-185). Cambridge (Massachusetts): MIT Press.
- > Zimmerman, J., Forlizzi, J., & Evenson, S. (2007). Research through design as a method for interaction design research in HCI. *Proceedings of the 2017 CHI Conference*, 493-502.

**Published by**

LISt Lab  
*info@listlab.eu*  
*listlab.eu*

**Art Director & Production**

Blacklist Creative, BCN  
*blacklist-creative.com*

**Printed and bound  
in the European Union**

2020

**All rights reserved**

© of the edition LISt Lab  
© of the text the authors  
© of the images the authors

**Prohibited total or partial reproduction**

of this book by any means, without permission  
of the author and publisher.

**Sales, Marketing & Distribution**

*distribution@listlab.eu*  
*listlab.eu/en/distribuzione/*

**LIStLab** is an editorial workshop, based in Europe, that works on contemporary issues. LISt Lab not only publishes, but also researches, proposes, promotes, produces, creates networks.

**LIStLab** is a green company committed to respect the environment. Paper, ink, glues and all processings come from short supply chains and aim at limiting pollution. The print run of books and magazines is based on consumption patterns, thus preventing waste of paper and surpluses. LISt Lab aims at the responsibility of the authors and markets, towards the knowledge of a new publishing culture based on resource management.



