Preface and Acknowledgements

This book was born from close co-operation between two authors. However, the first part is written mainly by Ezio Manzini, meanwhile the second, third, fourth and appendixes are written by Carlo Vezzoli.

The book is based on the work, research and didactic activities of the Research Unit Design and Innovation for Sustainability (DIS), and the Environmental Requirements for Industrial Products Laboratory (RAPI.lab) of INDACO Department at the Politecnico di Milano University and the Italian National Network of Universities for Design for Sustainability (RAPI.rete). A valuable contribution comes from the collaboration of many years within these structures with Lucia Orbetegli and Carlo Proserpio.

The first part outlines and defines the main features and scenarios of sustainable development; proposes new ideas for well-being in sustainable society; describes the roles of various stakeholders inside system innovation, paying particular attention to the function of the designer.

The second part looks into the approach to and various strategies for designing environmentally sustainable products. With special emphasis on the Life Cycle Design approach, the design criteria and guidelines for integrating environmental requirements as early as the development stage will be explained. System design for eco-efficiency is also introduced.

The third part presents several methods and tools for the development and assessment of low impact products, services and systems, stressing the Life Cycle Assessment method.

In the fourth part the historical course of research, education and practice of design for sustainability is outlined.

The appendixes summarise the design strategies/criteria and guidelines, and outline the environmental effects.

This text was published and written in order to offer both a comprehensive and organic picture of the topic of design for environmental sustainability as well as a supporting handbook in design. For this reason, as well as the general discussion, possible strategies, guidelines and design options are also listed. For the very
same reason, the overall text is illustrated with a healthy amount of examples of low impact products. These examples are chosen for a dual purpose: to clarify design options and their position with regard to various other types of products. To make things easier to understand in a visual way, and to provide access on different levels, these examples are listed against a coloured background.

Some arguments that are closely related to the subject, but more detailed than others, are also presented in deliberately distinctively coloured boxes.

The reading of this book can be greatly assisted by employing the auxiliary design software, which is freely available at www.lens.polimi.it. Especially worth mentioning here are:

- **ICS_Toolkit** – qualitative tool for creating environmentally sustainable product concepts (coherent with criteria and guidelines of Chaps. 5–9).
- **SDO_MEPSS** – qualitative tool for creating environmentally sustainable system concepts (as approached in Chap. 10).
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