



PROCEEDINGS OF SPIE
SPIE—The International Society for Optical Engineering

Environmentally Conscious Manufacturing

Surendra M. Gupta
Chair/Editor

6–8 November 2000
Boston, USA

Sponsored and Published by
SPIE—The International Society for Optical Engineering



Volume 4193

SPIE is an international technical society dedicated to advancing engineering and scientific applications of optical, photonic, imaging, electronic, and optoelectronic technologies.



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Please use the following format to cite material from this book:

Author(s), "Title of paper," in *Environmentally Conscious Manufacturing*, Surendra M. Gupta, Editor, Proceedings of SPIE Vol. 4193, page numbers (2001).

ISSN 0277-786X
ISBN 0-8194-3858-8

Published by
SPIE—The International Society for Optical Engineering
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone 1 360/676-3290 (Pacific Time) • Fax 1 360/647-1445
<http://www.spie.org/>

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Printed in the United States of America.

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Introduction

Environmentally Conscious Manufacturing (ECM) is concerned with developing methods for manufacturing new products from conceptual design to final delivery, and ultimately to the end-of-life disposal, such that all environmental standards and requirements are satisfied. In recent years, environmental awareness and recycling regulations have put pressure on manufacturers and consumers to produce and dispose of products in an environmentally responsible manner. This has created a need to design products that are friendly toward the environment, to develop models for disassembly process planning, to develop algorithms, heuristics, and software to support disassembly planning, and to address related issues, such as the logistic and economic viability of disassembly, recycling, and remanufacturing.

The first international conference on Environmentally Conscious Manufacturing, which took place in Boston, 6–8 November 2000, was a result of such needs. Both academia and the industrial community in the United States and abroad participated in this timely conference. The conference provided a forum for the latest developments in the field of ECM. For three days, conference participants immersed themselves in the engaging world of environment, remanufacturing, end-of-life management, disassembly, life-cycle and environmental impact assessment, sustainability, recycling, and product design. The goal for this conference was to bring together a broad, interdisciplinary group of experts, practitioners, and researchers to discuss the state of the art in ECM, and to determine appropriate future plans to guide scholarship and awareness of these crucial areas that concern the very existence of human life as we know it.

This volume is a compilation of the papers presented at the conference. The papers represent the wide variety of research areas in ECM. Based on the quality and variety of papers included in this volume, it is clear that the conference was a resounding success! I hope that this volume will inspire further research in ECM, and will attract new researchers to this enormously important field of study.

The conference and its resulting proceedings volume would not have been possible without the devotion and commitment of the authors. They have been very patient in preparing their manuscripts. I would also like to express my appreciation for having been given the opportunity to chair this conference. Finally, I want to thank the SPIE staff for providing seamless support in unraveling all of the obstacles that arose in putting the conference and this proceedings volume together.

Surendra M. Gupta

