## Competitiveness through Technology

What Business Needs from Government

Edited by Jerry Dermer York University



Lexington Books

D.C. Heath and Company/Lexington, Massachusetts/Toronto

## Contents

Figures	vii		
Tables	ix		
Acknowledgments		X	
Introduc	rtion	viii	

## Part I The Relationship of Technology to Economic Change 1

- 1. Government Policy and the Competitive Effects of Innovation 3
  Alan M. Kantrow
- 2. Computer-Integrated Manufacturing and the Next Industrial Revolution 11
  Robert U. Ayres
- 3. Competing through Technology: The Success Factors 25
  Bruce Rubinger
- 4. The Blending of Two Paradigms for Private-Sector Technology Strategy 39

  Mel Horwitch
- 5. Frameworks to Increase Trade 67 W.H.C. Simmonds

## Part II The Role of Government in Leading and/or Facilitating Change 81

6. The Role of Government Action in Formulating Competitive Strategies 83 Michael Cassidy

- vi · Competitiveness through Technology
- Technological Change and Reindustrialization: In Search of a Policy Framework 97
   Roy Rothwell
  - 8. Strengthening the Technological Competitiveness of Industries:
    Potential Contributions of Government 123

    Bela Gold
  - 9. Government Policies in Support of Automated Manufacturing: Japan, the United States, and Western Europe 147

    Jack Baranson
- 10. Locational Perspectives on Policies for Innovation 159

  John Britton and Meric Gertler
- 11. Cooperative Research and Development Centers: Government, University, and Industry Roles, Responsibilities, and Results 177 William A. Hetzner and J.D. Eveland
- 12. State-Level Manufacturing Technology Initiatives:
  Design Issues 191
  Louis G. Tornatzky

Index 205
About the Contributors 213
About the Editor 217