Preface to the Third Edition ................................................................. v
Preface to the Second Edition ............................................................... vii

I. Challenges and Trends
1. Challenges of Organizing International Research & Development .... 3
2. Extent of R&D Internationalization .................................................. 41
3. Foreign R&D in China ................................................................. 61
4. Internal Drivers .......................................................................... 77
5. External Drivers ......................................................................... 97
6. Establishing Overlaying Structures ............................................. 113
7. Organizing Virtual R&D Teams .................................................. 127

II. Emerging Patterns
1. The Market as a Challenge for R&D .............................................. 149
2. Technology Listening Posts ......................................................... 171
3. Managing the International R-to-D Interface ................................ 183
4. Transnational R&D Processes ....................................................... 209
5. Information & Communication Technologies ............................. 233
6. Directors of International R&D Labs ........................................... 253
7. Managing Knowledge and Human Resources ............................ 273

III. Best-in-Class: The Pharmaceutical and Chemical Industry
1. DuPont: Gaining the Benefits of Global Networks – from the Science Base to the Market Place ............................................. 293
2. Roche: Global Differentiation between Research and Development ............................................................................... 307
4. Ciba: International Research Laboratories in Japan: Practical Validation of a Strategic Concept ............................................. 331
5. Kao: Localizing R&D Resources ................................................... 347
IV. Best-in-Class: The Electronics, Software, and Service Industry

1. Xerox: The Global Market and Technology Innovator ........361
2. Canon: R&D – Driver for Continuous Growth and Diversification .................................................................379
3. Hewlett-Packard: Planet-Wide Patterns in the Company’s Technology Tapestry .........................................................397
4. IBM: Using Global Networks for Virtual Development ....445
5. SAP: Global Intellectual Property Management in the Software Industry Sector ..........................................................459
6. Unisys: Localization of Software Development ..................487
7. Huawei: Globalizing through Innovation .................................507
8. Fujitsu: Solutions for the Ubiquitous Networking World ......523

V. Best-in-Class: The Electrical and Machinery Industry

1. ABB: Management of Technology: Think Global, Act Local .................................................................559
2. Daimler: Global Knowledge Sourcing and Research .............573
3. Schindler: Institutionalizing Technology Management and R&D Core Competencies ........................................603
5. Leica Microscopy: International Transfer of R&D Activities .................................647
6. MTU: Partner in International High-Tech-Cooperations .....663
7. BMW Group: Strategic Framework for Global Innovation to Enhance the Efficiency of Global R&D ............................677
8. Siemens: Flying with the Dragon - Innovation in China ........695

VI. Implications

VI.1 Implications for Organizing Global R&D ........................................711

Bibliography .......................................................................................753
Index .....................................................................................................785
Index of Companies ...........................................................................791
Editors ...................................................................................................797
Case Study Contributors ......................................................................799