

# Contents

<b>List of Contributors</b> . . . . .	XI
---------------------------------------	----

## **Part I: Micro- and Nanotechnology**

1 Sensors in Micro- and Nanotechnology . . . . .	1
<i>H. Meixner</i>	
2 Approach to Microsystem Design . . . . .	23
<i>B. Kloeck, M. Derauwe</i>	
3 Sensors in Microsystems . . . . .	51
<i>H. Baltes, C. de Azeredo Leme</i>	
4 Three-Dimensional Microsensor Technology . . . . .	79
<i>H. J. Ache, W. Menz, J. Mohr, M. Strohrmann, W. Schomburg, B. Büstgens, J. Reichert, W. Hoffmann, W. Faubel</i>	
5 Acoustic Wave Devices (SAW and BAW) . . . . .	135
<i>G. Fischerauer, A. Mauder, R. Müller</i>	
6 High-Temperature Microsensors . . . . .	181
<i>J. Gerblinger, K. H. Härdtl, R. Aigner, H. Meixner</i>	
7 Integrated Optics Sensors . . . . .	221
<i>H. Teichmann</i>	
8 Optical Microsensors . . . . .	259
<i>H. Bartelt</i>	
9 Materials in Nanotechnology . . . . .	275
<i>H. Schmidt</i>	
10 Sensors and “Smart” Molecular Nanostructures: Components for Future Information Technologies . . . . .	295
<i>W. Göpel</i>	
11 Future Nanosensors . . . . .	337
<i>R. Wiesendanger</i>	

## **Part II: Sensor Markets**

12 Trends in Sensor Technologies and Markets . . . . .	357
<i>R. Jones</i>	
13 Aerospace Sensors . . . . .	365
<i>R. Czichy</i>	
14 Process Sensing and Control . . . . .	413
<i>M. J. Scott</i>	

X Contents

15	Medical and Healthcare Sensors . . . . .	431
	<i>V. M. Owen</i>	
16	Environmental Sensors . . . . .	451
	<i>K. Jones</i>	
17	Automotive Sensors . . . . .	491
	<i>P. Cockshott</i>	
18	Sensors in Manufacturing and Quality Assurance . . . . .	525
	<i>N. Pratt</i>	
	<b>Index . . . . .</b>	<b>539</b>
	<b>List of Symbols and Abbreviations . . . . .</b>	<b>552</b>