

Contents

<i>List of figures</i>	<i>ix</i>
<i>Preface</i>	<i>xi</i>
<i>Acknowledgements</i>	<i>xiii</i>
1 Responsible Industry 4.0: A Framework for Human-Centred Artificial Intelligence for Development	1
PART 1	
The Fourth Industrial Revolution and Sustainable Development	9
2 The Industry 4.0: An Introduction: Implications on Society and Individuals	11
3 Towards a Responsible Industry 4.0	28
4 Technology Trends Driving Industry 4.0	37
5 The Use of Industry 4.0 Technologies to Achieve Circular Economy Principles for Sustainable Development and Production	56
6 Responsible Deployment of Technologies in Industry 4.0	75
PART 2	
Application of 4IR Technologies in Industry 4.0	97
7 Sustainable Industry 4.0 and the Policy Responses for Success	99
8 Industry 4.0 and Its Impact on Economic Participation and Contribution to General Prosperity	110

9	Responsible Innovation: A Practical Guide to the Fourth Industrial Revolution	131
10	The Risks Associated with Artificial Intelligence towards Economic and Societal Inclusion	147
11	The Fundamental Concepts and Principles That Underpin Artificial Intelligence and Machine Learning	164
12	Applications of Artificial Intelligence and the Industry 4.0 Technologies in Real-Life Situations	177
 PART 3		
	Human-Centred AI for Sustainable Development	197
13	The Meaning of Human-Centred AI in Industry 4.0	199
14	Human-Centred AI for Sustainable Development in Industry 4.0	211
15	Human-Centred AI Framework: Creating AI Focused on Serving Human Needs for Development	221
16	The Policy Proposals: Human-Centred AI and the Sustainable Development Goals	233
17	Human-Centred AI in Healthcare: A Step towards the 2030 Sustainable Development Goals with a Direct Focus on Health and Well-Being	247
18	A Human-Centred Perspective: The Ethical and Responsible Use of Artificial Intelligence and Language Models in Industry 4.0	263
19	Conclusion: Responsible Industry 4.0: A Framework for Human-Centred Artificial Intelligence for Development	275
	 <i>Index</i>	 283