Contents

Preface to the First Edition ................................................................. ix
Preface to the Second Edition ............................................................... xi
Acknowledgments .............................................................................. xiii
Editors .................................................................................................... xv
Contributors ........................................................................................ xvii

PART I  Introduction: Work in Control Rooms and Models of Control Room Work

Chapter 1
Work in Control Rooms ....................................................................... 3
_Toni Ivergård and Brian Hunt_

Chapter 2
Models in Process Control .................................................................. 11
_Toni Ivergård and Brian Hunt_

PART II  Design of Information and Control Devices

Chapter 3
Design of Conventional Information Devices ....................................... 45
_Toni Ivergård and Brian Hunt_

Chapter 4
Design of Large and Complex Display Systems ................................... 83
_Eric Hénique, Soeren Lindegaard, and Brian Hunt_

Chapter 5
Design of Controls ............................................................................. 133
_Toni Ivergård and Brian Hunt_
PART III  Design of Control Rooms and Their Environment

Chapter 6
Control Room Layout and Design ............................................................... 155
Toni Ivergård and Brian Hunt

Chapter 7
Environmental Factors in the Control Room.............................................. 177
Andy Nicholl

PART IV  Case Studies and Applications

Chapter 8
Industrial Applications and Case Studies.................................................. 203
Erik Dahlquist, Brian Hunt, and Toni Ivergård

Chapter 9
Maritime Application of Control Systems.................................................. 227
Margareta Lützhöft and Monica Lundh

PART V  The Human Dimension in the Control Room

Chapter 10
The Operator's Abilities and Limitations .................................................... 265
Toni Ivergård and Brian Hunt

Chapter 11
Learning and Creativity at Work ............................................................... 291
Toni Ivergård and Brian Hunt

Chapter 12
Modelling and Simulation in the Pulp and Paper Industry: Current State and
Future Perspectives ..................................................................................... 311
Angeles Blanco, Erik Dahlquist, Johannes Kappen, Jussi Manninen, Carlos
Negro, and Risto Ritala

Chapter 13
System Design: An Overview .................................................................... 327
Toni Ivergård and Brian Hunt
PART VI Conclusions

Chapter 14
Conclusions and Recommendations in Summary ........................................... 345
Toni Ivergård and Brian Hunt

Index .................................................................................................................. 355