


Automation, Collaboration,
& E-Services

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Dynamic Lines of Collaboration

Disruption Handling & Control

 Springer

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This book focuses on the systematic modeling of complex situations characterized by escalating disruptions, and on cycles of dynamic collaboration for the best handling of disruptions. What can we do about disruptive events and their cascading effects? Thanks to the evolution of intelligent technologies for interaction, communication, sharing, and collaboration, cyberspace is a rapidly expanding world. Our systems of machines, software services, and human organizations have become increasingly interdependent, in other words – networked. As a result, disruptions that initially affect only a small part of any network tend to escalate. At the same time, cyber solutions can support first responders and emergency handlers, enhancing their responsiveness and ability to collaborate with one another in controlling disruptions and preventing their escalation.

In this book, we are chiefly interested in how effectively these collaborations can be supported and how we can further optimize such support. Solution guidelines for optimizing collaborations are illustrated with examples in various application domains: agricultural robotics, civil cyber-physical infrastructure, visual analytics, manufacturing automation, and supply chains. Open-source simulation tools are also provided to supplement the main content.

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