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Nota di contenuto	Front Cover; Micro Mechanical Systems: Principles and Technology; Copyright Page; Contents; Chapter 1. Introduction; Historical Background and Parallels to Microelectronics; The Motivation for Microsystem Technology; Microphysics and Design Considerations; From the Microcomponent to the Microsystem; Chapter 2. Photolithographic Microfabrication; Basic Concepts of Planar Processing; Materials; Unit Processes; Integrated Processes; Limitations of Planar Processes; Chapter 3. Micromachining by Machine Tools; Historical Aspects; Basics of Micromachine Tools; Microtool Preparation Wire Electrodischarge Grinding (WEDG)Micro EDM; Micro Mechanical Machining (MMM); Combined Method for Micromachining; Chapter 4. Tribological Aspects of Microsystems; Introduction; Tribology - Friction, Lubrication and Wear; Surface Structure and Tribological Contact; Friction and Wear; Materials for Reliable Micromechanical Systems; Chapter 5. Silicon Microsensors; Introduction; Fabrication; Performance of Micromechanical Sensors; Examples of Micromechanical Sensors; Chapter 6. Micro-Actuators for Micro-Robots: Electric and

Magnetic; Introduction; Electric Field Driven Actuators  
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Actuators; Chapter 7. Energy Source and Power Supply Method;  
Classification of Energy Supply Methods; Internal Supply Methods;  
External Supply Methods and Noncontact Manipulation; The Others;  
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Principle; Scaling Effects; Intelligent Control; Man-Machine Interface;  
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Microsystems; Examples of Micromachines; Chapter 10. Future  
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The Industrial Potential of Microsystem Technology The Importance of  
Standardization; Outlook

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#### Sommario/riassunto

In ten sections this book describes the principles and technology of Micro Mechanical Systems. Section one is a general introduction to the historical background and the parallels to microelectronics, reviewing the motivation for microsystems, and discussing microphysics and design and the evolution from microcomponents to microsystems. Section two covers the areas of photolithographic microfabrication, basic concepts of planar processing, materials, and processes. Section three looks at micromachining by machine tools, its history, basic principles and preparation methods. Section four dis

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