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Nota di contenuto	FrontMatter -- Preface -- Acknowledgments -- Contents -- Summary -- 1 Introduction -- 2 Materials Development: The Process -- 3 Materials Development Assessment -- 4 Intellectual Property and Export Control -- 5 Elements of an Effective R&amp -- D Strategy -- Appendixes -- Appendix A: Statement of Task -- Appendix B: The Leading Edge in Aerospace Propulsion -- Appendix C: Biographies of Committee Members -- Appendix D: ITAR-Restricted Analysis of the Plan -- Appendix E: Materials Development Case Studies -- Appendix F: Acronyms.
Sommario/riassunto	"The ongoing development of military aerospace platforms requires continuous technology advances in order to provide the nation's war fighters with the desired advantage. Significant advances in the performance and efficiency of jet and rocket propulsion systems are

strongly dependent on the development of lighter more durable high-temperature materials. Materials development has been significantly reduced in the United States since the early 1990s, when the Department of Defense (DOD), the military services, and industry had very active materials development activities to underpin the development of new propulsion systems. This resulted in significant improvements in all engine characteristics and established the United States in global propulsion technology. Many of the significant advances in aircraft and rocket propulsion have been enabled by improved materials and, materials manufacturing processes. To improve efficiency further, engine weight must be reduced while preserving thrust. Materials Needs and Research and Development Strategy for Future Military Aerospace Propulsion Systems examines whether current and planned U.S. efforts are sufficient to meet U.S. military needs while keeping the U.S. on the leading edge of propulsion technology. This report considers mechanisms for the timely insertion of materials in propulsion systems and how these mechanisms might be improved, and describes the general elements of research and development strategies to develop materials for future military aerospace propulsion systems. The conclusions and recommendations asserted in this report will enhance the efficiency, level of effort, and impact of DOD materials development activities."--Publisher's description.

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