

COMPOSITE MATERIALS IN DEFENSE: OVERVIEW AND OUTLOOK

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ABSTRACT

The Department of Defense maintains an annual investment of \$7.4 billion in basic and applied research and advanced technology development. This investment is the foundation of future systems and operational capability and supports an annual \$70 billion investment in the engineering development, testing, and acquisition of new systems. The Materials Science and Technology Program at \$330 million per year forms a significant part of this investment. Currently, approximately \$90 million within the Materials Program is invested in composite materials of all types. These investments are described in context of the overall Defense Science and Technology Program and with respect to the future Defense capabilities and materiel opportunities that are enabled by composite materials. Emphasis is placed on the changing nature of the Defense missions, the platforms required to meet those missions, and the role of composite materials in Defense platforms. Significant challenges posed by expected operations and acquisition needs are related to composite materials. The need for improved affordability in composite systems is discussed in terms of current projects and future challenges and outlook.