



Materials Genome Initiative: Strategic Plan (Color)

By Office of Science and Technology Policy, National Science and Technology Council, Committee on Technology

Createspace, United States, 2015. Paperback. Book Condition: New. 279 x 216 mm. Language: English . Brand New Book ***** Print on Demand *****.The Nation s economic competitiveness and prosperity in the coming decades will depend critically upon the pace of American innovation. Recognizing the importance of advanced materials in supporting an innovation-driven U.S. manufacturing sector, President Barack Obama introduced the Materials Genome Initiative (MGI) in June 2011 with this aim: discover, develop, manufacture, and deploy advanced materials twice as fast, at a fraction of the cost. This ambitious goal is within reach. Research conducted in the early 2000s demonstrated that a systems level approach to material design, optimization, and implementation could significantly reduce design time and cost while improving quality. Some of these successes were chronicled in the 2008 National Research Council study Integrated Computational Materials Engineering (ICME): A Transformative Discipline for Improved Competitiveness and National Security. One early example is the collaborative work of two aerospace engine design companies under the Defense Advanced Research Projects Agency (DARPA) Accelerated Insertion of Materials program. New principles of concurrently optimizing both design and manufacturing process enabled a new rotor disk design that had a 21 reduction in weight and 19 increase in...



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