

Defense Sciences Office

DARPA Titanium Initiative (DTI)

With high strength, excellent corrosion resistance and good ballistic characteristics, DoD has long recognized titanium as a superior material for components of military systems. Its high cost and long production leadtimes, however, have caused some developers to design systems with alternative materials. DARPA's Titanium Initiative (DTI) seeks to drive down production costs of titanium and clear the way for its widespread use in construction of DoD platforms. This initiative strives to produce titanium ore at less than \$4 per pound in unmelted billet form. Overall goals are to establish a U.S.-based, high-volume, low-cost, environmentally benign production capability enabling widespread use of titanium and its alloys and to develop unique, previously unattainable titanium alloys, microstructures and properties that enable new high-performance applications. DTI also seeks to develop meltless consolidation techniques to provide low-cost billet, rod, sheet and plate products that match the properties of traditional wrought titanium products. If successful, this research has potential to revolutionize titanium production with low-cost materials.

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Program Images

