



STRENGTHENING AMERICA

A 501(c)(3) Entity Incorporated in State of Ohio

Revised: 11/10/2008



WHAT IS THE DMTTC?

- **US Army Center of Excellence**
 - Modeled after other existing centers
- **Coordinate Military Specialty Metal needs with specific expertise located in Academia, Industry and Institutions**
 - starting in OHIO. Expanded “Footprint” to include southeast Michigan, eastern Indiana, western Pennsylvania and northern West Virginia

“HONEST BROKER”

DMTTC

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CENTER OF EXCELLENCE MODEL

- **By-pass Government Bureaucracy in dealing with specific technical issues in the general economy**
- **COULD NOT be established internally by the Army**
- **The Department of Defense has successfully established and maintained a number of these centers over the years.**
 - **National Center for Defense Machining and Manufacturing ~ Latrobe, PA**
 - **DNS Innovations ~ Pittsburgh, PA**
 - **Center for Commercialization of Advanced Technology ~ San Diego, CA**

DMITC

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MISSION:

- **Become the “Go To” knowledge base on specialized metals Titanium – Emphasis to Start**
- **Create an easily accessed resource for third parties.**
- **Generating interest and involvement with Titanium.**
- **Develop an understanding by industrial, academia and technical institutions of titanium and the Army’s needs.**

GOAL:

- **Create demand**
- **Demonstrate that there are Commercial Application for the same quality of Titanium as is required by the army**
- **The more national use and production of titanium of the quality matching the army’s needs will eventually decrease price.**

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FUNDING

Federal

- \$1MM from 2006 Department of Defense Appropriation Act
- \$2MM from 2007 Department of Defense Appropriation Act
- \$3MM from 2008 Department of Defense Appropriation Act

“Earmarks as they should be deployed”

Responding to a US Government Agency need and desire

State of Ohio

- \$150K from State of Ohio Department of Development for 2007/2008
- Seeking joint participation with academic and industrial partners in relevant 2009 Third Frontier funding.
- Actively soliciting funding from the Ohio Department of Development as Federal Funding Match



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WHY OHIO?

- **Northern Ohio continues to represent the heartland of metals production and manufacturing**
- **Convenient location for coordinating with other such metal industrial bases in western Pennsylvania, Michigan, Indiana, West Virginia and Illinois**

DMITC

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LOCATION

- **Stark State College of Technology**
- **Advanced Technology Center**
 - CAD lab for training
 - Machine shop for prototyping & teaching
- **Adjoining Tenants**
 - Rolls Royce – Fuel Cell Program
 - Diebold-Education Center
 - Lockheed Martin
- **Convenient Location**



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DMTC Projects funded in 2008

- **Stark State College (SSCT)**
 - Co-Op Program
 - 2 year CAD Trained Engineering Student Semester at Picatinny Arsenal, NJ
 - January 2, 2008 Students
 - September 4, 2008 Students
 - *Titanium Machining Course*
 - Start September – Supplies
 - *Titanium Welding Training Software*
 - 3rd Frontier Grant Proposal Writing Support
 - (Joint effort with SSCT)
 - Titanium Welding Workshops
(Jointly sponsored with SSCT and Edison Welding Institute “EWI”)
- | | |
|--------------|-----------------|
| Cost/Student | \$40,272 |
| | \$10,000 |
| | \$15,000 |
| | \$12,000 |

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DMTC Projects funded in 2008 (continued)

- *“A study aimed at evaluating, understanding and rationalizing the strength, endurance and performance of structures made from emerging titanium alloys”* **\$64,828**
 - The University of Akron College of Engineering, Dr. Anil Patnaik and Dr. T.S. Srivatsan
- *“Development of Continuous Cooling Transformation Curves using the Single Sensor Differential Thermal Analysis Technique”* **\$36,690**
 - Joint Experiment between Ohio State University – School of Engineering and American Engineering and Manufacturing (AEM), Lorain Ohio
- *“Test to evaluate to Evaluate Final Titanium Welding Wire Properties Produced from Cast Ingot vs. Wrought Billet”* **\$73,550**

Trial Manufacturing Run
Jointly managed by American Engineering and Manufacturing (AEM), Lorain, Ohio and G&S Titanium, Inc., Wooster, OH
- *“Identification of Titanium Scrap to meet Army standards and conveyance to a Contract Melt/Fabricator for Conversion into Plate”* **\$67,500**

(A Controlled “Supply Chain” experiment)
Oversight by DMTC

 - Study of Current Dynamics of the Titanium Scrap Market
 - Profiling to Army Specifications
 - Identification of Potential “Contract Melters/Fabricators/Plate Fabricators”

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Thank You
Questions?

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