



DOD
COMMERCIAL TECHNOLOGIES
IN
MAINTENANCE ACTIVITIES

CTMA



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CTMA Overview



- ***Cooperative Agreement between DoD and NCMS***

- ***Co-sponsor technology development, deployment and validation with DoD maintenance activities and NCMS companies***

- ***Goals***

- ***Transfer best commercial technologies and practices to DoD Maintenance Activities***

- ***Assess benefits of new manufacturing technologies through collaboration between DoD and industry***



CTMA **Cooperative Agreement**



- **Funding for Direct Contract support to develop and demonstrate technologies**
- **Focus on cost reduction within DoD Organic Maintenance Activities**
- **Requires a \$2 to \$1 Industry cost share on all technology development funding**
- **Provides for property disposition, IPR protection, and collaborative umbrella for all participants**



CTMA Program Funding



- **Multi-year Funding Agreement**

\$5 Million (1998)

\$6 Million (1999)

\$8 Million (2000)

\$6 Million (2001)

\$6 Million (2002)



CTMA Scorecard



- **23 Projects Approved by Office of the Secretary of Defense**
 - **ADUSD (L&MR)MPP&R is Program Sponsor**
- **\$14.9 Million in Direct Contract Costs**
- **Over \$31.4 Million in Industry Cost Share Commitments**
- **18 DoD Depot Level Maintenance Activities**
- **75 Commercial Industrial Organizations**



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DoD Participants



- **Army:** *Anniston Army Depot, Corpus Christi Army Depot, Tobyhanna Army Depot*
- **Navy:**
 - *Air: NADEP Cherry Point, NADEP Jacksonville, NADEP North Island, NAWC China Lake*
 - *Sea: Norfolk Naval Shipyard-Philadelphia Naval Foundry and Propeller Shop, Pearl Harbor Naval Shipyard, Portsmouth Naval Shipyard, Trident Refit Facility Kings Bay*
- **AF:** *Ogden ALC, Oklahoma City ALC, Warner Robbins ALC*
- **MC:** *Camp Pendleton, Albany MC3, Barstow MC3*
- **Other:** *Defense Microelectronics Center (DMEA)*



CTMA

Industry Partners



Electronics

Heavy Equipment



Controls



Computers



Machine Tools



Software



Health Care

Aircraft

Pharmaceuticals



Bearings



Food

Aerospace



Automotive



Communications

Sensors



Current CTMA Projects



- ***Leak Test Technology Development***
- ***Recent Alternatives to Chromate Processes***
- ***Material Substitution for Composite Repairs***
- ***Process Substitution for Composite Repairs***
- ***Portable Thermal Spray Technologies***
- ***Laser Shot Peening for Life Cycle Increase***
- ***Electronic Collaborative Manufacturing***
- ***Next Generation Inspection Systems (III)***



Current CTMA Projects



- ***Advanced Distributed Learning (Phase I, II)***
- ***Affordable High Density Chip on Board***
- ***Interactive Visualization***
- ***Near Dry Machining of Aluminum***
- ***Laser Engineered Net Shaping***
- ***Rapid Prototyping Technology Advancement***
- ***High Throughput Production Processing (I,II, III)***
- ***Automated Work Process Planning (I, II)***
- ***Rapid Response Computer Aided Manufacturing***



Emerging Project Ideas



- **Radio Frequency Locators**
- **Reliability Maintenance**
- **High-Reliability Lead Free Solder**
- **Next Generation Inspection Systems**
- **Thermal Spray Replacement Coatings**
- **Aluminum Structural/Dynamic Composites**
- **Equipment Parts Management System**
- **Ship Information Repository**
- **Hard Chrome Process Improvement**
- **Non-Destructive Inspection of Composite Parts**
- **Honing for Auxillary Power Units**
- **UV Surface Preparation**



Emerging Project Ideas



- **Retrograde Part Identification Using 2nd Generation Permanent Marking Techniques**
- **Advanced Wiring Integrity**
- **Harsh Environment, Lead-free Solder**
- **Intelligent Near Net-shape Manufacturing Cell**
- **Damage Wear Assessment – Rotating of Equipment**
- **Robotic Painting Optimization**
- **Reconfigurable Tooling Systems for Depot Level Parts Repair**
- **Kinetic Spray Processing**
- **Composite Scarf Router**
- **Thermal Spray Alternatives to Chromium**
- **Plating Facility Design Guide**
- **Leak Testing Phase II**
- **Increasing Horsepower in Diesel Engines**
- **Alternative Air Pollution Control Systems**
- **Optical Generation of 3D Models for Computer-Aided Manufacturing**
- **Oxy-Fuel Cutting Alternatives**
- **Robotic Painting Optimization**



CTMA Project Proposals



- **New Projects can be proposed by either DoD maintenance activities or industry**
 - Begins with a concept (~5 pages long)
 - Joint Industry/DoD interest and needs
 - Cost/Benefits summary sketched out
 - ROI
 - Participant roles defined
 - Support within Depot for care and custody of program deliverables
- **Proposals submitted to NCMS**
- **Projects approved by ADUSD(L&MR)MPP&R**



Getting Involved and Staying Informed



- **Project Ideas**
 - Submit directly to NCMS Staff
 - Respond via website or e-mail
 - CTMA Website: (<http://ctma.ncms.org>)
- **OSD Maintenance Website:**
<http://www.acq.osd.mil/log/mppr>
- **The CTMA Connector Newsletter**
- **Annual CTMA Symposium**