The DMB is being established as a permanent advisory group for the Department of Defense (DoD). This new group will give greater emphasis to the defense industrial base, i.e., that group of industrial sectors providing the capacity and technical expertise required for national security.

The DMB is being organized using the Defense Science Board (DSB) as a model. The DSB has an outstanding reputation for providing DoD with exceptional input from industrial and academic resources.

The DMB will: "advise and assist the assistant secretary of defense for production and logistics on all matters relating to manufacturing technology, quality, reliability and maintainability, mobilization and industrial base concerns and industrial productivity issues."

The DMB is an industrial base initiatives being introduced by Robert Costello, Under Secretary for Acquisition. One goal of these initiatives is to reduce DoD's dependence on overseas suppliers for defense-related products. The challenge is to identify U.S. industries involved in producing these products, and to aid them in improving their competitiveness.

The DMB will focus attention on these issues and provide insight from 15 industrial and academic leaders on these problems. The chairman of the DMB will be the assistant secretary for production and logistics.

The DMB board will provide more high level focus and attention to the manufacturing needs of the DoD.

The MTIAC Current Awareness Bulletin will be monitoring and reporting on the organization and activities of the new Defense Manufacturing Board.

MTAG/IMIP '88

A joint Manufacturing Technology Advisory Group (MTAG) and industrial Modernization Incentives Program (IMIP) conference will be held from 28 November - 2 December 1988 in Atlanta, Georgia. The conference will be hosted by the Air Force and will bring together leaders from government, industry and academia to exchange views and information on various issues related to manufacturing technology and industrial modernization.


A Department of Defense Information Analysis Center

MTIAC is a full-service information analysis center managed by Cresap, McCormick and Paget Division of TPF&C, Inc., a firm which provides technical services to government and industry. The principal subcontractor is the IIT Research Institute, one of the largest not-for-profit organizations in the United States.
The MTIAC Current Awareness Bulletin is published at regular intervals and distributed free-of-charge by MTIAC. For further information on the services and publications of the Center, contact Robert Walk, Director or Fred Seaman, Technology Coordinator. A pamphlet on the mission, scope and functions of the Center is available on request. MTIAC has been established under Contract DLA900-84-C-1508.

The Center concerns itself with areas of manufacturing technology that are applicable to defense systems. These areas include but are not limited to: Metals, Nonmetals, Electronics, CAD/CAM, Inspection and Test, and Munitions. In the context of the contract, the term "manufacturing" covers the entire life-cycle of a product — i.e., design, production and operational support.

Each of the above six subject areas includes but is not limited to the defense-related fields of: machine tools and manufacturing equipment, robots and special machines, material handling equipment, controls, software and data bases, communication lines and networks, sensors and inspection or checkout procedures, signal processing, materials and materials treatment, production processes, the specific defense products being produced and management aspects of manufacturing technology.

**MACHINE TOOL PANEL FOLLOW-UP**

Nate Tupper, Assistant Chief, Manufacturing Technology Division (MTL), Air Force Wright Aeronautical Laboratories recently wrote to the attendees of the June 1987, Dayton panel meetings.

The last paragraph reads:

"I am very encouraged that much can be done to assist the machine tool builders industry. A number of significant actions have already been taken as a direct result of the June conference, not only by the DoD but also by the National Center for Manufacturing Sciences, who should be initiating programs early in the new year. The ability of the DoD to support manufacturing technology initiatives is, of course, directly dependent on congressional support. I encourage your continued participation in this process to institute the most meaningful activities possible."

The Tupper letter also mentions that a follow-up progress assessment meeting is being considered. They are considering setting up a session in conjunction with the September 1988 International Machine Tool Show and Conference in Chicago. The National Machine Tool Builders Association has expressed interest. MTIAC will report on plans as they develop. Tupper's letter is available from the MTIAC.

Proceedings from the June 1987 Machine Tool Panel meetings are available from DTIC.

**INFAC**

Precision gears are a critical component for helicopters and aircraft. The DoD is concerned that the U.S. gear manufacturers are not taking advantage of the available technology for manufacturing these gears. The Defense Logistics Agency (DLA) has been studying this industry. Over 40 gearmakers and gear equipment manufacturers were visited in the United States and in western Europe. A major program planned to help U.S. gearmakers retain or recapture their competitive edge is being planned.

An instrumented factory (INFAC) is planned to demonstrate and evaluate state-of-the-art equipment for manufacturing precision gears and will offer a variety of services including research, education, and demonstrations. The U.S. gear industry will contribute to this effort and provide direction for its activities. A draft work statement for INFAC has been circulated and a formal proposal request is expected this spring. DLA Contact: Dan Gearing (202/274-5445).

**IMTS - SEPT 7-14, 1988**

The 1988 International Machine Tool Show and the fourth biennial International Machine Tool Technical Conference will be held at McCormick Place in Chicago. A follow-up to the June 1987 Machine Tool Panel meetings may also be held at that time. IMTS Contact: The National Machine Tool Builders' Association, 7901 Westpark Drive, McLean VA 22101-4269 (703/893-2900).
The DoD Manufacturing Technology Advisory Group (MTAG) held its 19th Annual Conference at the Sheraton Harbor Island East Hotel in San Diego. The more than 600 attendees included representatives from DoD, Army, Navy, Air Force and Defense Logistics Agency and many of the major defense contractors.

Robert C. McCormack, Deputy Assistant Secretary of Defense for Production Support gave the keynote address. ManTech Program overviews were given by: James R. Gallaugher - Army, Vincent J. Russo - Air Force, John W. McInnis - Navy, and Donald O'Brien - Defense Logistics Agency.

George Kuper spoke on the National Center for Manufacturing Sciences and Nathan Tupper described the results of the DoD Machine Tool Conference. Other subjects included the Air Force IMIP Program, the National Bureau of Standards' Automated Manufacturing Research Facility, the Navy's Best Manufacturing Program and the DoD Semiconductor Manufacturing Initiative.

Thursday was devoted to Government/Industry Minisymposia put on by the MTAG Subcommittees: CAD/CAM, Electronics, Metals, Non-metals and Munitions.

DoD's new SIMON Data Base was demonstrated. SIMON contains descriptions of currently active ManTech Programs: project descriptions, funding information, points of contact and other relevant information. Lori Haslam and Tim Dixon from Computer Services Corporation, San Diego and Walter Hamilton from Logistics Management Institute, Bethesda, displayed DoD's full version used by DoD and government representatives. Michal Stevens of the Manufacturing Technology Information Analysis Center, Chicago demonstrated the version of SIMON which has been tailored for use by industry through the MTIAC.

Dr. Vincent J. Russo has been promoted to Director of the Materials Laboratory at Wright-Patterson Air Force Base (AFWAL/ML 513/255-3300). Vince is now responsible for the entire laboratory.

Dr. William Kessler is taking over as Director of the Air Force ManTech Program (AFWAL/MLT 513/255-2232). Bill is in place as command designee pending all the formal approvals. Welcome aboard, Bill.
UNIFIED LIFE CYCLE ENGINEERING

Unified Life Cycle Engineering (ULCE) is an approach incorporating all of the "illities" during the design process. Computer aided design permits the designers at an engineering work station to effectively perform this function. UCLE will effectively provide the designer with a built-in review team.

ULCE will use a variety of databases containing intelligent search capabilities to select information of potential interest. Expert systems will evaluate this information and provide the designer guidance. The result will be a real time equivalent of design review meetings.

The ULCE concept is being developed by the U.S. Air Force. Contact: Dr. Harris M. Burte, 513/255-2738

FEDERAL LABORATORIES AND RESOURCES

The range of technology supported by the Federal Government is virtually unlimited. It is a challenge even for those operating within the government. This Directory was prepared by the U.S. Department of Commerce: Center for the Utilization of Federal Technology. The Directory of Federal Laboratory and Technology Resources, 1988-1989; A Guide to Services, Facilities, and Expertise is a 360-page collection of information that will help identify and locate resources. The main body of this Directory is a collection of resource summaries organized by subject - 1064 resources are listed. There is also a subject index, an index by states, a resource name listing, an agency index, and a listing of federal laboratories and their technology transfer offices.

Contact: The National Technical Information Services, 5285 Port Royal Road, Springfield, VA 22161 for $36 plus $3 for handling. Refer to order number PB88-100011.

NTMA

Mr. Robert M. Atols, President of Atols Tool and Mold Corporation in Schiller Park, Illinois, is the 1988 Chairman of the Board and Chief Executive Officer of the National Tooling and Machining Association (NTMA). Composed of over 3,400 companies throughout the United States, NTMA is the national representative of the $20 billion a year applied technology industry. Member firms contract to design and manufacture tools, dies, molds, gages, special machines, and to provide precision machining services for virtually every other manufacturing industry. NTMA was founded in 1943 to provide services to U.S. industries including defense-related industries.

Contact: Matthew B. Coffey, NTMA President, NTMA, 9300 Livingston Road, Fort Washington MD 20733 (301/248-6200).

AUTOMATED LASER CUTTING

A USAF IMIP program has developed a laser system for cutting and forming tubes. The system, developed by General Dynamics, contains a 750-watt, Super 48, Coherent General, laser and a Laserdyne 780 Laser Machining Center. At present it handles 350 tubing details and is expected to handle a total of 500. A two-million dollar savings will be realized on the F-16 program by using this system.

IRI/FLC ADVANCED MANUFACTURING SEMINAR

March 29-30, 1988

This conference, held in Dayton, covered the federal government activities in advanced manufacturing with emphasis on CIM. The Industrial Research Institute (IRI) and the Federal Laboratory Consortium (FLC) co-sponsored this meeting.

The chairman was Dr. Vince Russo, new Director of the Air Force Materials Laboratory.
AEROSPACE AND UNIVERSITIES JOIN

The Institute for Manufacturing and Automation Research (IMAR) has been formed as a consortium between five major aerospace firms and six universities. Dale Hartman, who had long been involved in MTAG and other defense related activities is the Executive Director.

IMAR will be involved in research subjects such as: process planning for production applications, robotics for microelectronic manufacturing operations, dynamic scheduling for production activities, and simulated programming in the manufacturing environment.

The firms and universities involved are: Northrop Corp, Rockwell International Corp, TRW Inc, Hughes Aircraft Co, and Xerox Corp, University of California at Los Angeles (UCLA), University of Southern California in Los Angeles (USC), California Institute of Technology, University of California at Irvine, University of California at Santa Barbara, and Arizona State University.

COL. MULCAHEY RETIRES

Effective 29 February, Col. Francis L. Mulcahey retired as Commander of the U.S. Army Production Base Modernization Activity (PBMA). Col. Mulcahey, commander of PBMA since August 1984, is retiring after 30 years of military service. PBMA is responsible for providing the Army with a modern efficient production base.

SUNDFRAND RECOGNIZED

In a ceremony held on January 6, 1988, Sundstrand was recognized for reducing costs by $6.1 on components manufactured for the F-16 being built by General Dynamics. This savings was the result of the USAF Aeronautical Systems Division sponsored by Industrial Modernization Incentive Program (IMIP). The Ceremony was attended by Harry Stonecifer, President of Sundstrand, and presided over by Maj. General Robert Eaglet, ASD Deputy Commander for F-16. The savings mentioned above are only for the F-16. Additional savings are anticipated on all DoD work done by Sundstrand.

AIR FORCE LASER TECHNOLOGY APPLICATION SURVEY REPETECH 88 PRESENTATION

A laser technology application survey of Air Force Logistics Centers and the Aerospace Guidance and Metrology Center has identified 24 laser system opportunities and projected 10-year present value savings at one installation of $76.2 million dollars for an estimated investment of $16.9 million according to an industry briefing in Salt Lake City on January 28. The survey team is headed by General Electric Aircraft Engineering with support from MTI of Latham, New York; CGI of Sturbridge, Massachusetts and General Dynamics of Fort Worth, Texas.

Phase I and II of the three-phase program are complete. Twenty of these analyses consisted of detailed technical substantiations and preliminary equipment designs including shop floor plans and system schematics. Technology assessments were performed on four additional systems in the advanced development stages. These assessments included strong emphasis on the effort required to make these systems viable in an ALC setting.

The evaluated systems fall into three general classifications: near-term, mid-term and long-term repair opportunities. Near-term opportunities utilize existing equipment that can be obtained from multiple sources and will provide immediate savings.

Twenty-two of these systems have the potential to provide significant Air Force economic and noneconomic benefits. Contact: Mr. Kay Beckstead (801/777-1007), 00-ALC at Hill AFB Ogden, Utah.
### MAY

**LASERS IN INDUSTRY-SPOT 88 CONFERENCE AND EXPOSITION**  
SME, May 2-4, Cleveland, OH  
Contact: 313/271-1500 (ext 356)

**EXPERT SYSTEMS AND THE LEADING EDGE IN PRODUCTION PLANNING AND CONTROL**  
Univ South Carolina, May 3-5, Charleston, SC  
Contact: Conf. Coordinator, South Carolina, Columbia SC 29208

**ARTIFICIAL INTELLIGENCE AND ADVANCED COMPUTER TECHNOLOGY CONFERENCE/EXPO (AI 88)**  
Tower Conference Management, May 4-6, Long Beach, CA  
Contact: 312/668-8820

**INTERNATIONAL INDUSTRIAL ENGINEERING CONFERENCE**  
IIIE, May 22-25, Orlando FL  
Contact: 404/449-0460

**16TH NORTH AMERICAN MANUFACTURING RESEARCH CONFERENCE (NAMRC XVI)**  
NAMRI/SME, May 25-27, Urbana IL  
Contact: 217/333-3432

**EXPERT SYSTEMS AND THEIR APPLICATIONS (Avignon '88)**, Workshop, conferences, tutorials, and exhibition, May 30-Jun 3, Nanterre FRANCE.  
Contact: Tel (33.1)47807000; Tlx 612469 F; Fax (33.1)47806629

### JUNE

**3RD INTERNATIONAL CONFERENCE ON COMPUTER-AIDED PRODUCTION ENGINEERING**  
Univ Michigan, Jun 1-3, Ann Arbor MI  
Contact: 313/588-5662

**AUTOMATION TRADE SHOW; ROBOTS 12 AND VISION '88**  
NMTBA and RIA, Jun 5-9, Detroit MI  
Contact: 703/827-5277 or 313/994-6088

**CONFERENCE ON AUTOMATION AND ROBOTICS FOR MILITARY AND SPACE APPLICATIONS**  
MICOM and NASA/MSFC, Jun 21-22, Huntsville, AL  
Contact: 312/567-4519

### AUGUST

**INTERNATIONAL CONFERENCE ON ERGONOMICS OF ADVANCED MANUFACTURING AND HYBRID AUTOMATED SYSTEMS**  
University of Louisville, Aug 16-18  
Louisville, KY  
Contact: 502/588-6342

**7TH NATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE**  
AAAI, Aug 21-27, Saint Paul MN  
Contact: 415/328-3123

### SEPTEMBER

**FABRICATING COMPOSITES CONFERENCE AND EXPOSITION**  
SME and CoGSME, Sep 12-15, Philadelphia, PA  
Contact: 313/271-1500 (ext 359)

**5TH INTERNATIONAL CONFERENCE ON LASERS IN MANUFACTURING**  
IFS (Conferences) Ltd, Sep 13-15  
Stuttgart, WEST GERMANY  
Contact: (England) Tel (0234)853605  
or Tlx 825489

**PRACTICAL MACHINING PRINCIPLES FOR SHOP APPLICATION**  
Metcut, Sep 13-14 & Sep 27-28, Cincinnati, OH  
Contact: 513/489-6688

**METAL MATRIX COMPOSITES CONFERENCE AND EXPOSITION**  
CoGSME, Sep 13-15, Philadelphia, PA  
Contact: 313/271-1500, (ext 359)

**7TH INTERNATIONAL CONFERENCE ON FLEXIBLE MANUFACTURING SYSTEMS**  
IFS (Conferences) Ltd, Sep 13-15, Stuttgart, WEST GERMANY  
Contact: (England) Tel (0234)853605,  
Tlx 825489, Fax 0234 854499

**FABTECH WEST CONFERENCE AND EXPOSITION**  
SME and AFIT, Sep 27-19, Anaheim, CA  
Contact: 313/271-0023
One of the important steps in a DoD Manufacturing Technology project is the End-of-Contract Demonstration. On this occasion, the contractor or agency which has developed and/or applied the technology puts on a demonstration of the equipment and processes involved.

The following calendar of events has been compiled by the staff at MTIAC. It is also available on-line to MTIAC users through the MTIAC Manufacturing Technology Projects Data Base (MTPDB). The data base is updated monthly.

<table>
<thead>
<tr>
<th>1988</th>
<th>PROJECT</th>
<th>TITLE &amp; LOCATION</th>
<th>POINT OF CONTACT</th>
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<tr>
<td>MAY</td>
<td>NAVY - SPAWAR</td>
<td>VISIC Multichip Packaging</td>
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<td>X0501</td>
<td>Teledyne Microelec, Los Angeles, CA</td>
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<td>MAY</td>
<td>NAVY - SEA 05</td>
<td>Numeric Controlled Structural Shapes Process Center</td>
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<td>S0091</td>
<td>Bath Iron Works, Bath ME</td>
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<td>MAY</td>
<td>ARMY</td>
<td>III-V Semiconductors Photodetectors</td>
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<td>2 3050</td>
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<td>201-535-3640</td>
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<td>JUNE</td>
<td>NAVY - AIR</td>
<td>Low Dielectric Materials for VISIC</td>
<td>W. L. Christensen</td>
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<td></td>
<td>A2001</td>
<td>Multilayer Boards</td>
<td>215-697-6684/AV 443-6684</td>
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<td>JUNE</td>
<td>ARMY</td>
<td>Composite Engine Gearbox</td>
<td>E. Ames</td>
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<td></td>
<td>1 7384</td>
<td></td>
<td>804-678-3977</td>
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<td>JUNE</td>
<td>AIR FORCE</td>
<td>MT for Centrifugally Cast DU Penetrator</td>
<td>E. Pohlenz</td>
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<td></td>
<td>F33615-84-C5058</td>
<td>Honeywell, New Brighton, NM</td>
<td>513-255-2413</td>
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<td>JUNE</td>
<td>AIR FORCE</td>
<td>Improved Ultrasonic Equipment</td>
<td>E. Wheeler</td>
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<td></td>
<td>F33615-84-C5015</td>
<td>Reliability and Production</td>
<td>513-255-5151</td>
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<td>Staely Instrument, Kenedick, WA</td>
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<td>JULY</td>
<td>NAVY - ASN S&amp;L</td>
<td>Parts Digitizing System (PARDS)</td>
<td>W. L. Christensen</td>
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<td>JULY</td>
<td>ARMY</td>
<td>Evaluation of High Temperature Carburizing</td>
<td>P. Popiano</td>
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<td>1 7298</td>
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<td>617-923-5327</td>
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<td>JULY</td>
<td>ARMY</td>
<td>Erosion Protection for Compressor Airfoils</td>
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<tr>
<td>AUG</td>
<td>NAVY-SEA 05</td>
<td>Fire Resistant Nonmetallic Bulkhead Mfg. Process</td>
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<td>F33615-85-C5036</td>
<td>Southwest Research Institute, San Antonio, TX</td>
<td>309-782-1488</td>
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</table>
Copies of the summaries of papers referenced in this and future Bulletins are not available from MTIAC. For copies of the source articles, you may refer, depending on the nature of the material to:

**National Technical Information Service (NTIS)**  
U.S. Department of Commerce  
Springfield, VA 22151  
(800) 336-4700

or

**Defense Technical Information Center (DTIC)**  
Cameron Station  
Alexandria, VA 22314  
(202) 274-7633

or

The publisher of the journal in which the document appeared.

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**MTIAC Products and Services**

MTIAC's objective is to collect, analyze and disseminate timely information on the characteristics and utilization of manufacturing technology for the production of defense materiel. Its services are available to all sectors of government and industry within the limitations of the contract. The Center's principal services include:

- Technical advice and assistance
- Access to bibliographic data, data bases and reference sources
- Written reports in the form of technology assessments, state of the art reviews and handbooks

MTIAC is a full-service information analysis center managed by Cresap, McCormick and Paget Division of TPF&C, Inc., a firm which provides technical services to government and industry. The principal sub-contractor is the IIT Research Institute, one of the largest not-for-profit research organizations in the United States.

MTIAC is able to draw on the expertise of both organizations to:

- conduct searches for manufacturing technology information
- answer technical inquiries
- conduct studies within its established scope

An initial inquiry and quick response to determine available data can be accommodated at no charge. For further information call MTIAC at 312-567-4730 and request an informational brochure.

Robert A. Walk  
Director

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