



National Small Business Conference San Diego, California

MTI's Story

Paul S. Hsu, Ph.D.
Chairman and CEO
Manufacturing Technology, Inc.
July 20, 2004



Company Overview

- ❑ **Founded by Dr. Paul Hsu in 1984**
- ❑ **Total Product Lifecycle Support**
 - ❑ **Obsolescence Management Tools and Services**
 - ❑ **Avionics and Electronics Design/Redesign**
 - ❑ **ATE Design and Development**
 - ❑ **Engineering and Technical Services**
 - ❑ **Electronics Manufacturing and Precision Metal Work**
- ❑ **480+ Employees Worldwide**
- ❑ **10 U.S. Locations and 18 Countries Worldwide**
- ❑ **Headquarters: Fort Walton Beach, Florida**



Operating Locations





Manufacturing Technology, Inc.

People • Technology • Integrity • Commitment • Customer

MTI *Fort Walton Beach Facilities*

- 13 acres in FWB Industrial Park
- 100,000 sq ft office & manufacturing
- TOP SECRET facility clearance



MTI *Crestview Facilities*



- 50,000 sq. ft manufacturing facility
- 18 acres at Crestview Industrial Airport (8000 ft runway)
- 15 acres available for warehouse expansion

MTI *Electronics Manufacturing*



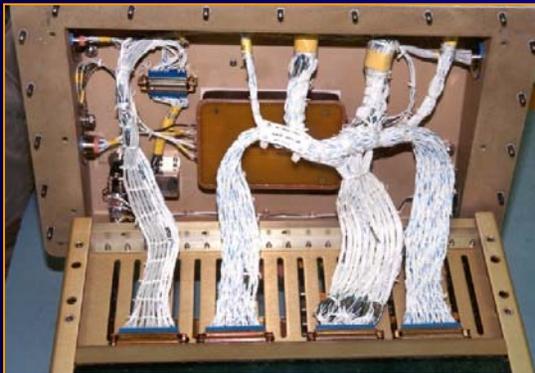
SMT Assembly



Potting/Special Processes



Electro/Mechanical Assembly



Cables and Wire Harness



Conformal Coating



Thru-Hole PWB Assembly

MTI Precision Metal Fabrication



CNC Vertical Milling



WaterJet



CNC Amada Brake



Turning Center



Welding



GrindingMaster

MTI *In-House Test Capability*



Continuity and Isolation Testing



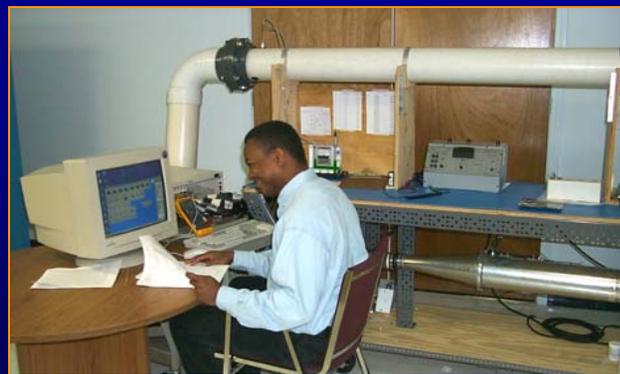
Special Test Equipment



In-Circuit Testing (Teradyne)



Environmental Testing



Functional Testing



Shock & Vibration Testing



Avionics & Electronics Design/Redesign

Engineering Tools Utilized

Electrical & Mechanical Design

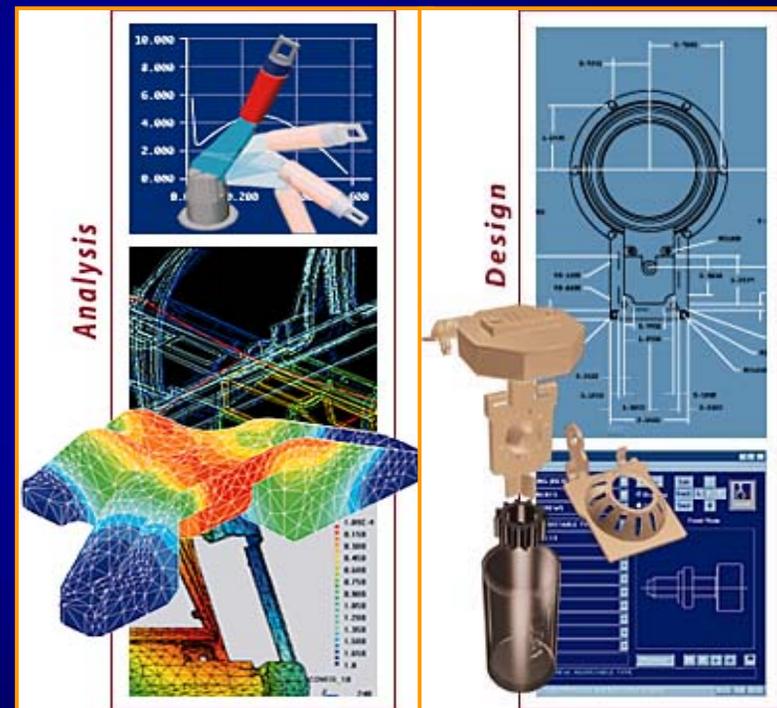
- ORCAD
- Solid Edge
- Mechanical Desktop
- AutoCad
- ALGOR (finite element modeling)

VHDL Modeling & Simulation

- Active VHDL
- ORCAD Express
- ORCAD PSPICE
- Exemplar Logic's Leonardo
- Model Technology's Model Sim

Software Development

- Languages
 - C, C++, Visual Basic, JAVA, Delphi, ATLAS
- SEI Level 2
 - Morton Kern Systems (Configuration Management)





Manufactured F-15 Avionics/STE



Roll Radar Cable



Air Direction Sensing Unit



Analog Avionics Depot
Test Systems (AADTS)



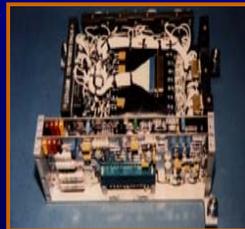
Hybrid Depot Test Systems (HDTs)



HUD/MPD Depot Test
Set



Elevation Radar Cable



Low Voltage Power Supply



F-15 ECS Test Set



Azimuth Radar Cable



Manufactured F/A-18 Avionics/STE



Relay Module



Aircraft Maintenance Indicator



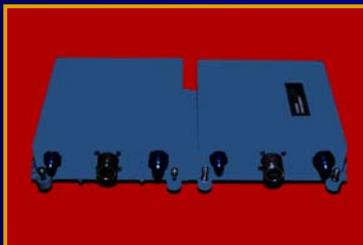
Video Recorder Controller



Consolidated
Automated
Support System
(CASS)



Data Storage Unit Receptacle



Pressure Transducer Set (PTS)



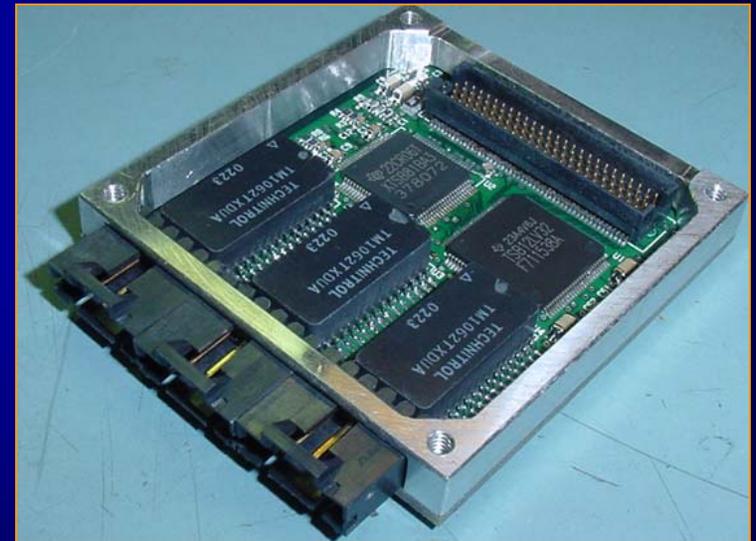
Electro-Optical Test Set (EOTS)



Avionics & Electronics Design/Redesign

JSF Firewire Network Daughter Boards

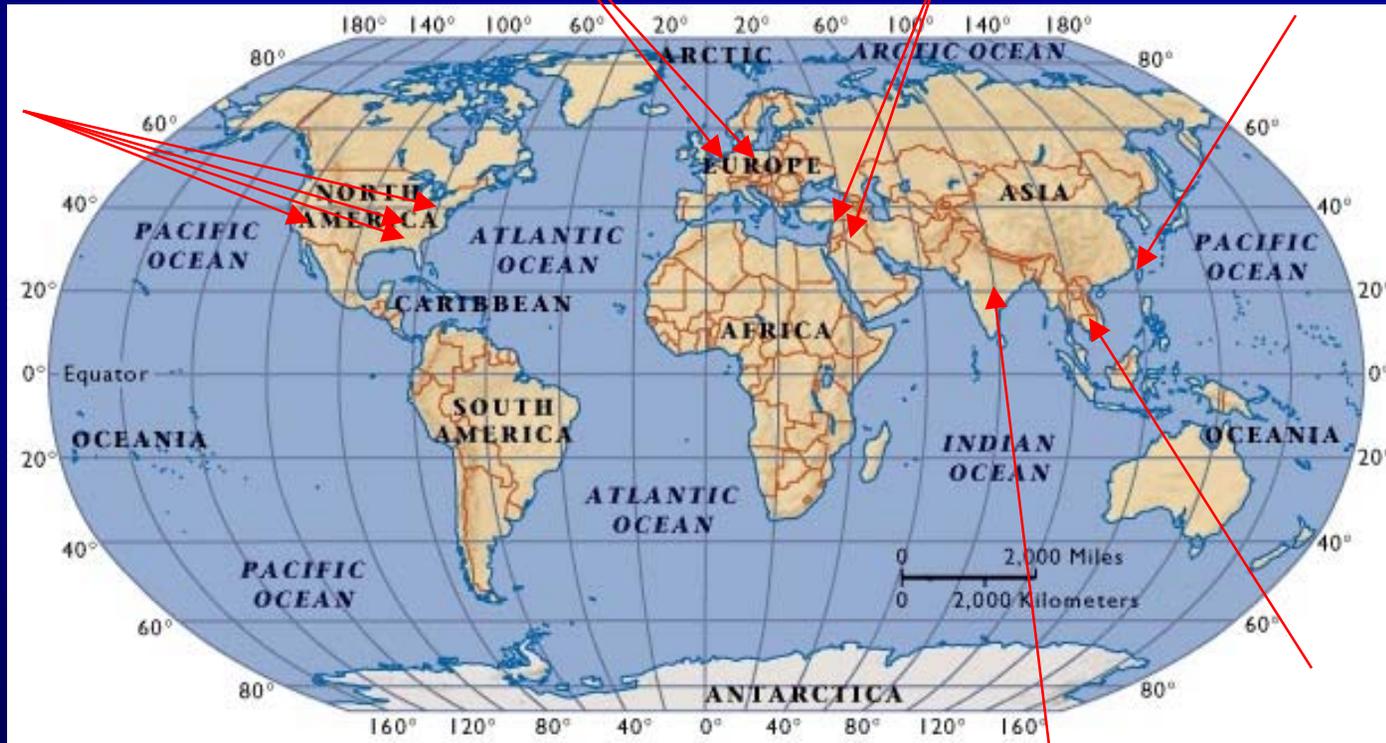
- ❑ **Designed and Developed IEEE 1394B Compliant Network Daughter Boards**
 - ❑ **57 Units Per Aircraft**
 - ❑ **Extended Bandwidth Firewire Communications Protocol**
 - ❑ **Implements Physical and Link Layer Protocols**
 - ❑ **Interfaces Up to Three Serial Communications Buses**
 - ❑ **Nodes Are Fault Tolerant & Failures Do Not Impact Network Operation**
- ❑ **Possible Twenty Year Production Contract**





Global Depot Presence

USA



EUROPE

ISRAEL

TAIWAN

INDIA

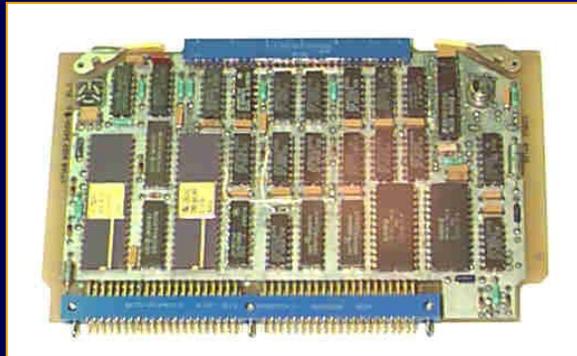
S. KOREA



Avionics & Electronics Design/Redesign

F-15 PACS Form, Fit, Function Redesign

Legacy: MTBF: 38Khr; Power: 4.5W; \$2.7K

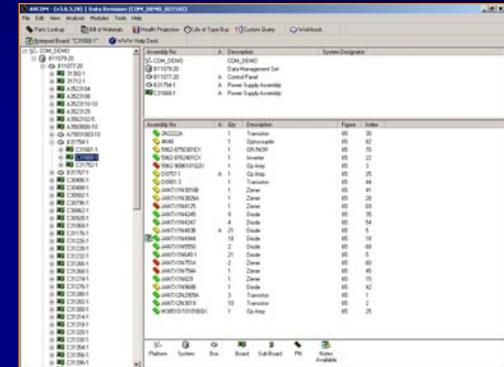


MTI Redesign: MTBF: 97Khr; Power: 1.75W; \$2.6K



- ❑ Eliminate Obsolete Component and Performance Issues
- ❑ Preserve Customer NRE Investment with Technology Independent, VHDL
- ❑ Significantly Enhance MTBF & Reduce Spares Inventory
- ❑ Reduce MTTR Using Enhanced BIT
- ❑ Reduce Component Count & Cost Via Increased Integration Densities
- ❑ Validate Hardware Via Bench, LRU/Pod Integration, Environmental and Flight Qualification Tests

MTI Obsolescence Management Tools & Services



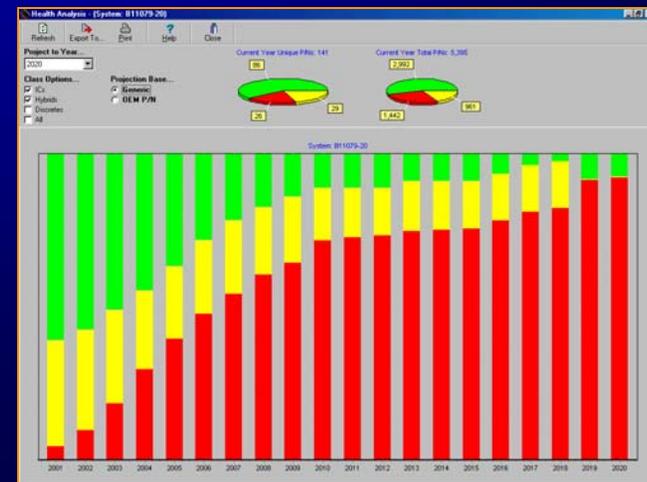
An obsolescence management tool that:

- ❑ Provides near real-time, life-cycle obsolescence assessments for complex systems/platforms
- ❑ Facilitates trade-off analyses to quickly identify best cost, sustainment solutions



AVCOM Capabilities

- **Proactive Management of System Obsolescence Over the Product Life-Cycle**
 - Accurate Obsolescence Forecasts
 - Comprehensive Impact Analysis
 - All Compatible Component Solutions
 - Decision Support for “Best” Phased Sustainment Solutions
- **Parts Commonality Analysis (PCA) Across Multiple Systems & Platforms**
- **DLA Inventory Analysis**





Obsolescence Management Experience

AIR FORCE

AWACS
 Automated Test Equipment (LEA)
 B-1
 B-2 Spirit
 Boeing/LU Directorate
 C-141
 C³I Systems (LHI)

C-5 Galaxy (LAE)
 Combat Talon II
 COMPOSITE AVCOM
 E-8 Joint STARS
 Electronic Warfare SE (LNSE)
 F-15 A/B/C/D/E
 F-15 FMS

F-16 Falcon
 LY Common Avionics
 Mature & Proven Aircraft (LC)
 Maverick (WM)
 Space Systems (LHJ)

Electronic Warfare Directorate (LN): (F-15, F-16, B-1, B-52, A-10, C-141, C-5, C-17, C-27, CV-22, AH-64, MH-53J, MH-60G, HH-60G, C-141 SOLL II, HC-130P & N, AC-130U & H)

ARMY

ATC	NMD
Apache	OH-58D
Black Hawk	TARGETS
Hawk-Missile	THAAD
MLRS	

OEM's

Hawk	C-130	F-4	MH-60G
A-310	C-141	F-14D	UH-60
AH-6	C-5A		
AV-8B	CH-47	F/A-18A/B/C/D/E	
AWACS	C-17	HH-1	
B-2	E-6	IDAR	

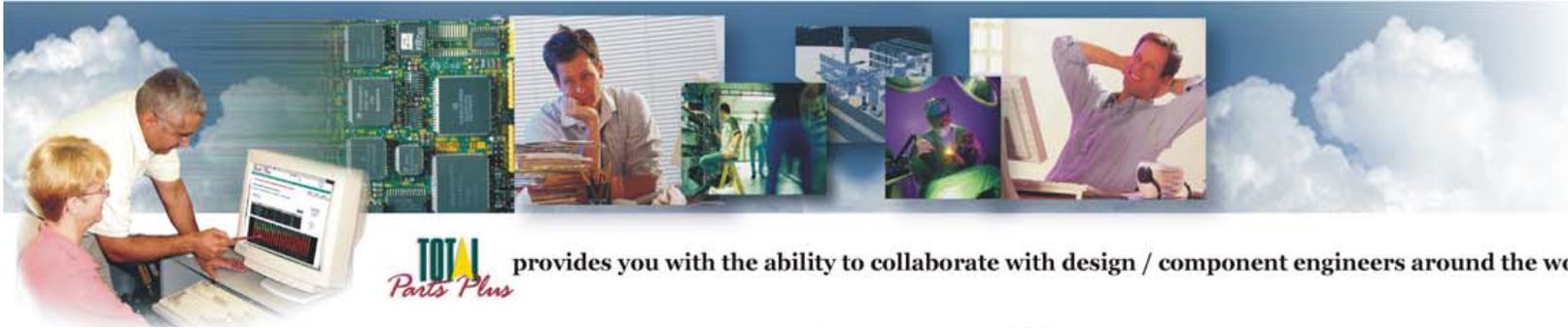


Total Parts Plus is a suite of decision support tools in the form of online applications and services, located at <http://www.totalpartsplus.com>.



Subscribers evaluate electronic parts for obsolescence, availability, and substitution. Subscribers can also make informed management decisions relative to the electronic parts and design usage.



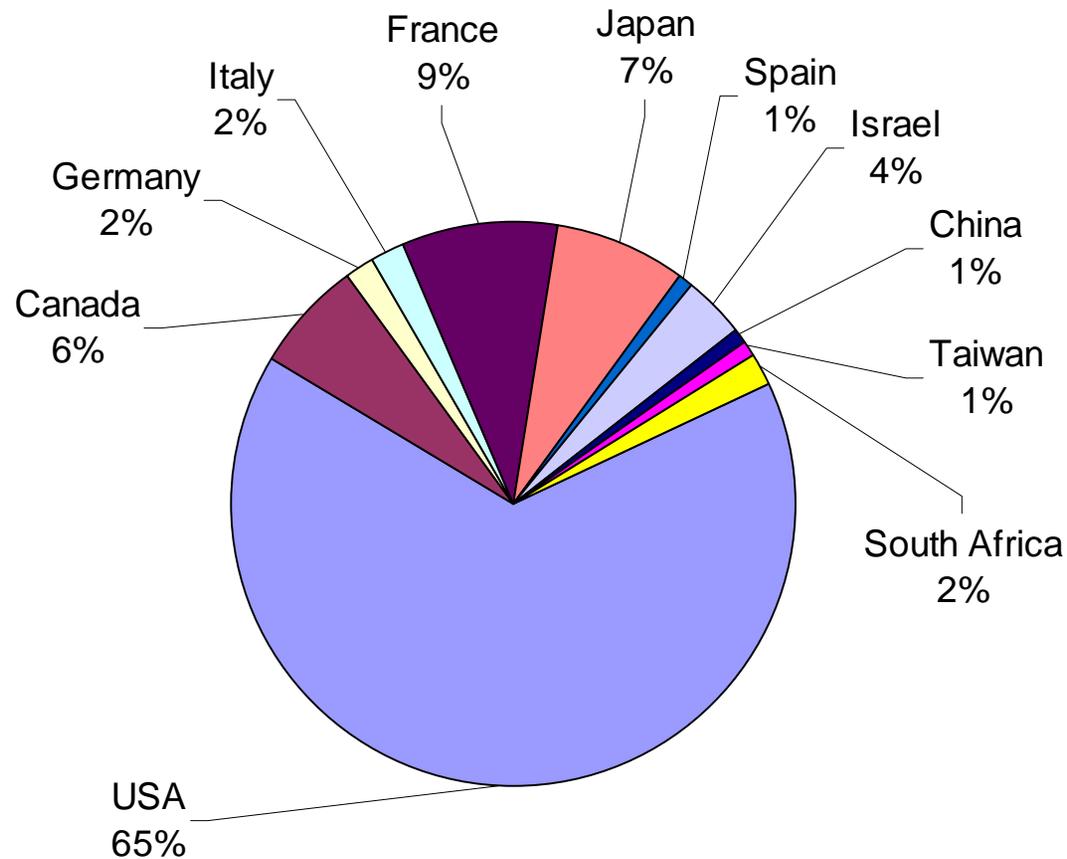


TOTAL
Parts Plus

TOTAL
Parts Plus

provides you with the ability to collaborate with design / component engineers around the world for solutions.

Geographic Penetration





MTI'S Mentor Protégé Program

□ Epoch Software – *Software Development*

- Awarded USAF Mentor-Protégé Contract (Brooks AFB)
- EPOCH/MTI awarded \$6.6M in contracts for software services (WR-ALC)



□ Creek Indian Nation – *Electronics & Metal Fabrication*

- Muskogee Technology Joint Venture
- Awarded STRICOM \$48M IDIQ (5 years)

□ General Precision Manufacturing – *Metal Fabrication & Services*

- Awarded USAF Mentor-Protégé Contract (Brooks AFB)
- Doubled GPM Revenue to \$800K





U.S. Troop Deployment



MTI *The World in 2015*

