

# UPTIME'S PDM 2010 PROGRAM OF THE YEAR



## Arnold Engineering Development Center (AEDC) Aerospace Testing Alliance (ATA) Hardware & Software

### Route Based & Analysis Equipment (Multiple Technologies):

- Four DI-460 Two-channel Data Collectors
- SPS 395 Spectral Analyzers
- Dewetron, Teac and IOTech ZonicBook 650u Brand Recorders
- Easy Thomas, Easy Balance, Easy Analysis Software
- Bently Wobulator
- Two Hardy Portable Shakers
- One FLIR® P640
- One FLIR® GF306 Sulfur Hexafluoride (SF6) Infrared Camera
- Four Fluke® T1 50s
- Mikron M310 Blackbody Radiator
- Fluke Smartview 1.6

### • FLIR Reporter 8.1

- Two UE 10000s
- Eight UE 9000s
- Ferrogram Maker
- Industrial-grade Seven Intermec PDAs for performance data collection
- On-base oil analysis lab w/full spectrum of analysis tools.

### Continuous Monitoring Equipment (Vibration):

- Bently Nevada 3500 MCM racks plant-wide with Vibrometer 501X systems in 2 facilities for Machinery Diagnostics and 3 permanently installed IOTech units (with more IOTechs to be installed in the near future).

### Motor/High Voltage Electrical Testing Equipment:

- AVO 5010 Insulation Tester
- Biddle Dissipation Factor Tester
- DC High Potential Tester
- Baker On-Line Motor Tester
- AEMC Direct Current Resistance Tester
- MCEmax, MCE Gold Software
- Two fully-equipped motor/high voltage electrical test trucks

### Other Software:

- DMSI Maintelligence™ is used to integrate equipment health monitoring data from PDM technologies.
- Oracle WAM™ (formerly known as Synergen™ and SPL™) is our CMMS.

Best  
Overall  
PDM  
Program

## Arnold Engineering Development Center (AEDC) Aerospace Testing Alliance (ATA) Program Highlights

The Aerospace Testing Alliance (ATA) at Arnold Engineering Development Center (AEDC) operates and maintains 63 test facilities for the United States Air Force at Arnold Air Force Base, TN; White Oak, MD; and NASA's AMES Research Center in CA. AEDC is the most advanced and largest complex of flight simulation test facilities in the world. Originated in 1951, the center operates aerodynamic and propulsion wind tunnels, rocket and turbine engine test cells, space environmental chambers, arc heaters, ballistic ranges, and other specialized units. The center's test facilities simulate flight conditions from sea level to space and speeds up to Mach 20, with 27 test capabilities unique within the United States and 14 worldwide. Every high performance aircraft, missile, space launch system and most satellites in use



Team members (L to R). First row: Gail Clayborne, Kaleigh Hatfield, Billy Terrell, Sarah Newberry, Adam Webb, Ramesh Gulati. Second Row: Teresa Wilhite, Brian Bennett, Dan Henley, Don Brandt, Vijay Narain, Charity Vandergriff. Third Row: Casey Schewe, Charles Starnes, Christopher Mears, Bob Walker, Bill Hane, Gary Jarrell, Dennis Weaver. Last Row: David Hurst, Roger Miller, Rod Stewart, Brad McClure, Chuck Bryant and David Riddle.

by the U.S. Department of Defense today have been tested at AEDC as well as all of NASA's manned spacecraft and many commercial aircraft and spacecraft. As the primary contractor at AEDC, ATA's mission is "to be a trusted partner in delivering best value war fighter support and asset stewardship to AEDC."

In order to accomplish this mission of delivering best value war fighter support and

asset stewardship, over 15,000 assets are maintained using a reliability based program focused on Preventive Maintenance and Predictive Maintenance best practices. Through classical and streamlined FMEA/RCM analyses, asset class level Asset Management Strategies and an ISO9001 certified Asset Management Process, a right-sized maintenance program

continues to be developed and refined for these assets. This right-sized maintenance program includes maintenance approaches from run-to-failure while other assets utilize every PDM technology available. Various continuous improvement methods are used to assess potential deficiencies in our maintenance program, including formal root cause analysis, "quick asset reviews", fault tree analysis, and cause-consequence analysis as well as ISO-based process audits. AEDC continues to gain benefits from the use of PDM technologies with

reductions in facility downtime and cost savings to our overall maintenance program. We utilize a strong advocacy program to ensure continued support to our CBM/PdM program by documenting and briefing success stories and overall cost savings to our client, the USAF. Their support as well as our upper management support has been the foundation needed to sustain our PDM program. ATA and AEDC also believe in the value of external assessments by PDM and maintenance experts as well as benchmarking so that we can take our program to the next level. Our desire to improve is encapsulated in the late Vince Lombardi's philosophy -- to continue to strive for perfection and we will achieve excellence along the way.

# AEDC/ATA

## Arnold AFB, TN