

Electrical System Health

“From Rags to Riches”

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ELECTRICAL PROBLEMS PLAGING OUR WEAPONS SYSTEMS CAN BE EXTREMELY DIFFICULT TO FIND



This aircraft is
not ready to fly

THE DENOMINATORS

- TIME TO FIND PROBLEM
- COST IN REAL HARD \$
- MISSION READINESS

TIME TO FIND THE PROBLEM

- Incorrect Technical Orders
- Undocumented modifications
- Contracted modifications
- Splice repairs
- Complex branched circuits
- Know which signal but not location on the line
- This time varies from hours, days and even weeks – Is now possible in minutes

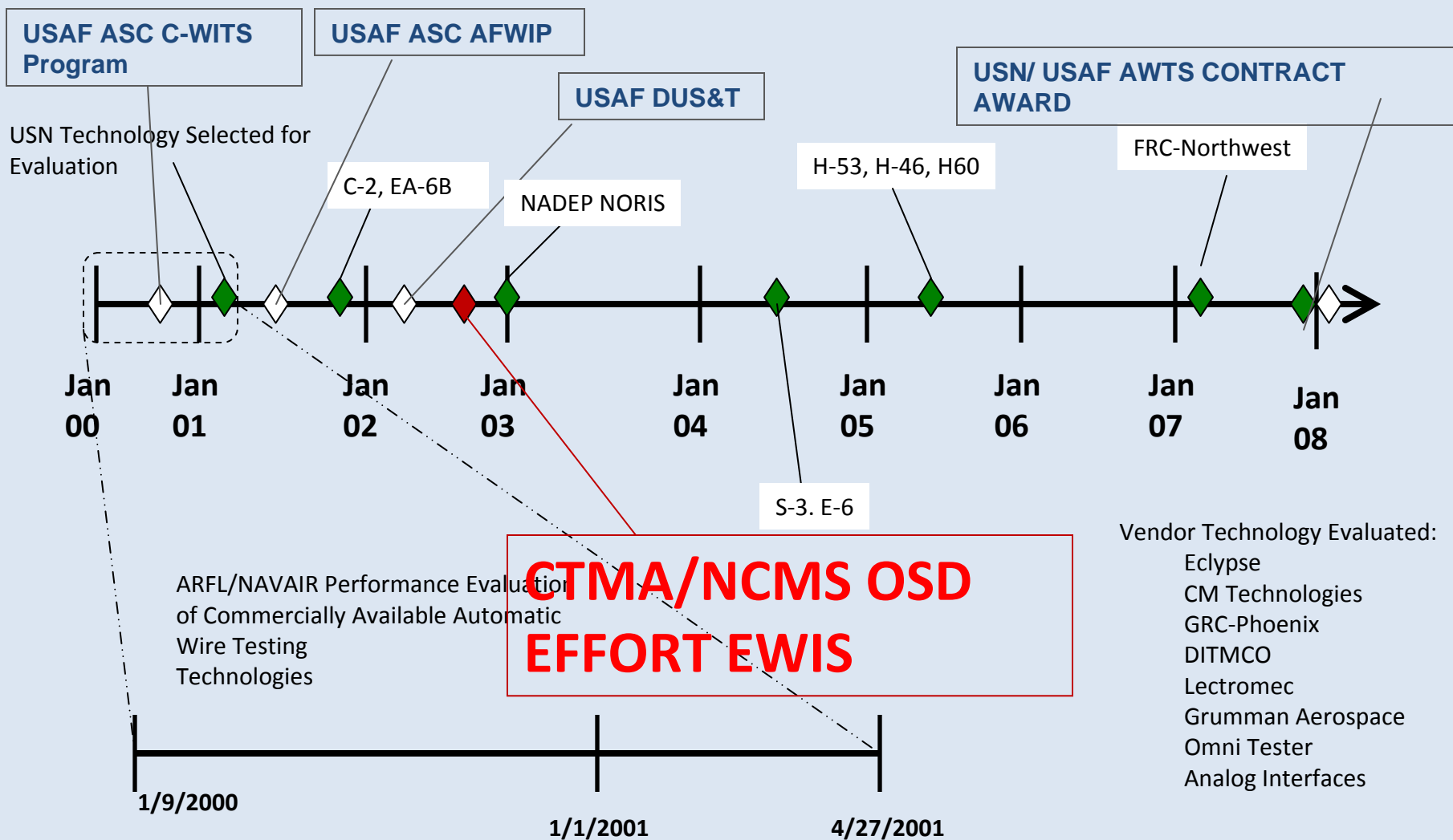
COST IN REAL HARD \$

- Tech schools generally teach swap-tronics
- Good avionics are leaving the squadrons for re-test/repair
- Good avionics may be damaged
- Avionics costs skyrocket
- Weapon System remains degraded (safety hazard)
- Costs **per squadron** for false removal averages **\$3M annually**.
- **DOD wide** costs up to **\$50 Billion** annually (all weapon system types).

MISSION READINESS

- SELF EXPLANATORY

EWIS TIMELINE



CTMA/NCMS COLLABORATIVE BENEFITS



- Strength in numbers!
 - Creativity of thoughts and ideas – well rounded
 - End solutions are more realistic/obtainable
- Include OEM's to the end customers
 - EWIS included, Sikorsky Aircraft, military depots, and field activities
 - Value added from all team members
 - Intellectual property is secured



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THE SOLUTION

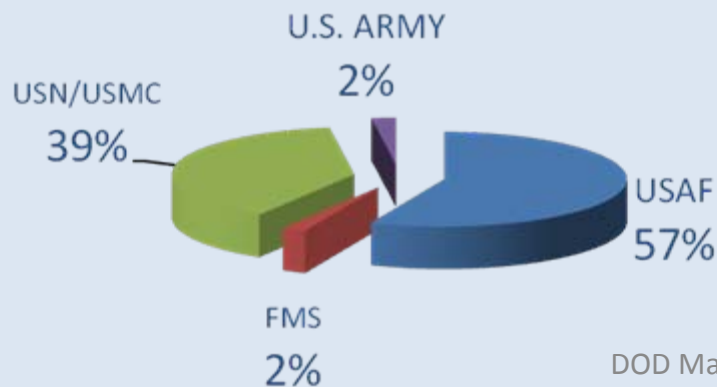
- Modular
- Reconfigurable
- Deployable
- Usable at all maintenance levels
- Easy to use
- Inexpensive to implement
- [PLAY EWIS](#)

IS IT WORKING?



BETTER THAN EXPECTED!

- Aircraft faults located faster
- Electrical/Environmental Back Shop Workload reduced significantly (80%+).
- Pro-Active Maintenance Inspection Occurrence
- Part of Battle Damage and Recovery Kits (BDAR).
- Health of weapons systems wiring is improving due to repair of the root causes, not related components due to symptom diagnosis
- We are approaching a fork in the maintenance road where testing the wiring will be faster than replacing an Avionics item
- 2005 Chief of Staff Best Practice and Excellence Award – Won by USAF F-15E 4th Fighter Squadron using EWIS (CONUS and Deployed) – Seymour Johnson AFB, NC
- 2006 Defense Manufacturing Excellence Award for Joint Technology Insertion at five DOD depots and associated intermediate and organizational level maintenance
- Tri-Service Contract Award - \$23M + in JAN 08 N68335-08-D-0009



CONCLUSION



- Electrical system maintenance costs the DOD **\$50B+** Annually with a negative impact on mission readiness
- Through collaborative activities and good customer feedback, EWIS has provided a significant positive impact
- **Existing technology that has been automated combined with new technology from NASA provides a unique solution for the war fighter that works!**

