Finding Product-Market Fit for Inspection & SHM Technology

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CAGE Code: 5AYW7
Aerospace Reliability & Maintainability Specialists

• Founded in 2002. Atlanta & Warner Robins, Georgia

Services Summary:

• Reliability Analysis & Program Support – RAM, RCM, R&M
• Reliability Business Case Analysis – ROI & +NPV
• Diagnostics & Prognostics --> Increases performance & lowers cost
• Field Investigations, Inspection & Quality Assurance
• New Technology Insertion

Performance Advantage:

• Specialization & deep expertise delivers solutions cost effectively
• Increase operational availability ($A_o$)
• Lower total lifecycle costs
• Customer relationships
Marc Andreessen defined the term as follows: 

“Product/market fit means being in a good market with a product that can satisfy that market.”
Focusing on what matters

Performance

• Fighting power, flight range, payload capacity
• Speed, maneuverability, reliability

Cost

• Lifecycle cost
• Inspection cost
• Business case analysis

Time

• Availability
• Utilization
• Maintenance man-hours
Technology Adoption Risk Profile

New technology is risky
  • Risk needs to be defined
  • Understood by the customer

Benefit needs to outweigh the risk
  • Benefits that matter to the customer
  • Performed

Clearly communicated
  • Clear from the perspective of the customer
What to do with challenges

Move to a new market
• Change customers
• Find greater need – priority

Change your product
• Increase value
• Meet customer need or environment

Change communication
• Does the customer get it?
• Are you speaking to the right individual(s)?
• Right sales people?
Aircraft Lifecycle

**Design & Test**
- Reliability growth
- System reliability modeling

**Normal Life**
- Failure reporting & corrective actions
- Prognostics & diagnostics

**End of life**
- Major cost savings possible by extending useful life and avoiding wear-out
- Replacing components with intrinsically reliable components is important
- DMSMS & supportability issues

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**Availability cost / hour** = Operating & Mx Cost / Available hours
Air Force Needs

Our Perspective:

C-130
• Corrosion
• Emerging: Composite

F-15
• Stress corrosion cracking
• Fatigue cracks

C-5
• Honeycomb

Potential Solutions:

X-Ray
• Corrosion
• Emerging: Composite

Structural Health Monitoring
• Stress corrosion cracking
• Fatigue cracks

Lower the cost of access & inspection
Benefits of Condition Based Maintenance

Usage Environment
- Knowledge of the usage can help optimize maintenance & replacement cycle
- Either manage safety risks or provide additional useful life

Severe usage
- Manage potential safety risks
- Prevent unexpected failures

Mild usage
- Gain additional useful life
- Avoid replacing components too early
- Potential cost reduction
Next Steps & Contact Information

• Subscribe to our reliability blog for the latest reliability engineering insights
• Contact us to discuss market opportunities
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