



# Possible Avionics Inspection Needs

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- ◆ **Looking for Good Ideas**
- ◆ **“Do no harm”**
- ◆ **“Do some good”**
  - “Events” could indicate failure – or not.
  - Assist in troubleshooting, isolation, analysis
  - Inform decision to repair or restart without repair
  - Future Problem Avoidance
- ◆ **Minimize maintenance by crew (especially EVAs)**
  - In-situ inspection and repair
  - In-situ inspection, IVA workbench repair
- ◆ **Inspection should complement diagnostic capabilities**
  - Avoid Duplication
  - If duplication possible, pick cheapest approach
  - Occasional inspection may replace continuous monitoring
  - Monitor for inspection (e.g., impact detection sensors)
- ◆ **Ground capabilities could also be valuable.**
  - Post-install/pre-launch “behind the panels”
  - Could lead to in-space tools.

# Some Specific Possibilities:



- ◆ **Comparison/Confirmation of “As Built” vs. “As Designed”**
  
- ◆ **Connectors**
  - Visual Inspection of connectors for bent pins, contamination
  - Special camera (lens) for connector inspection
  - Thermography
  - Contact retention test
  
- ◆ **Card Seating**
- ◆ **Solder Joints**
  
- ◆ **Looking at both surface and sub-surface in 3D**
  - X-ray inspection of MOSFETs to see inside ceramics
  - Use of IR, Ultra Sound, MRI, CAT?