2018 Singapore Aviation Safety Seminar

Collecting More Data to Advise Operations on the State of the Aircraft…

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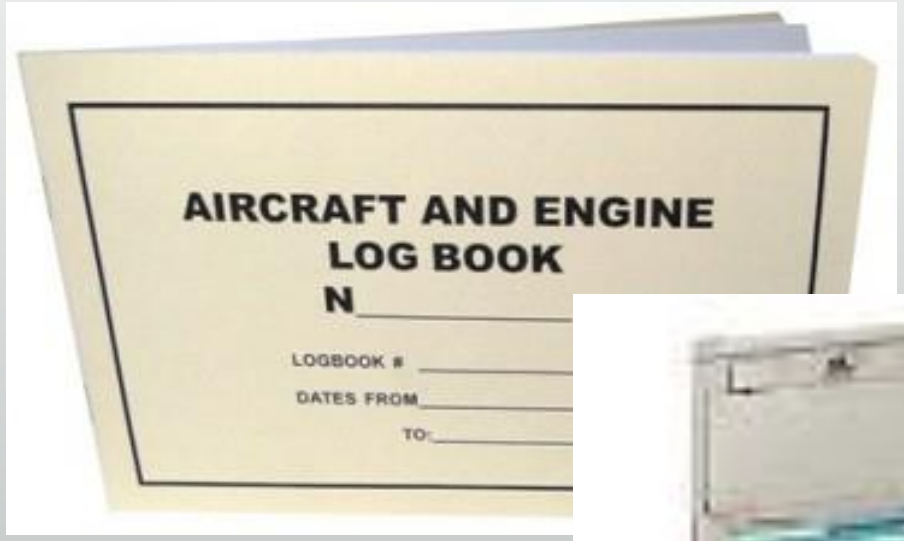
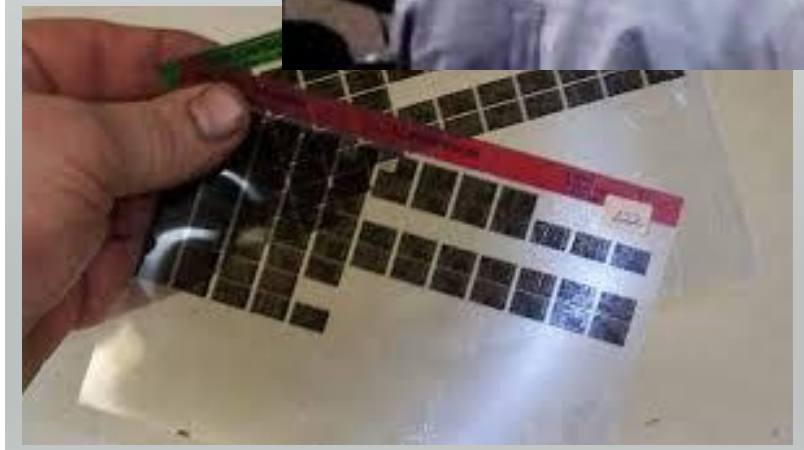
Inflight Warning Systems, Inc.

Good old Days of Data…





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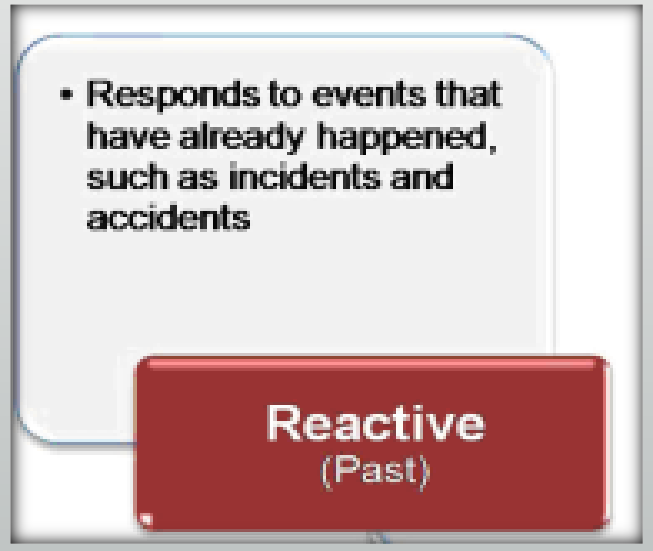
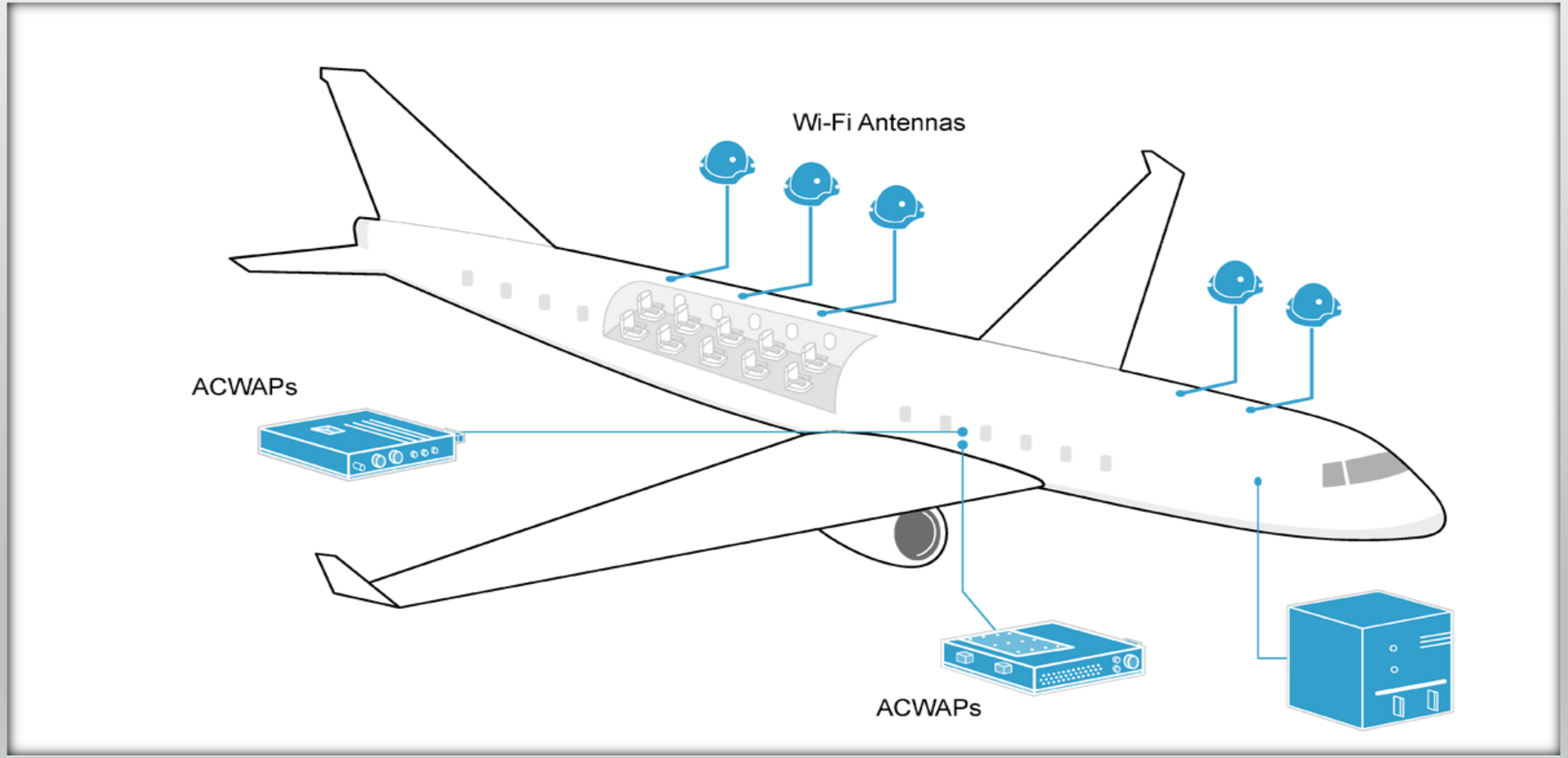


- Checked Aircraft History
- Reviewed Component History
- Research and Investigations

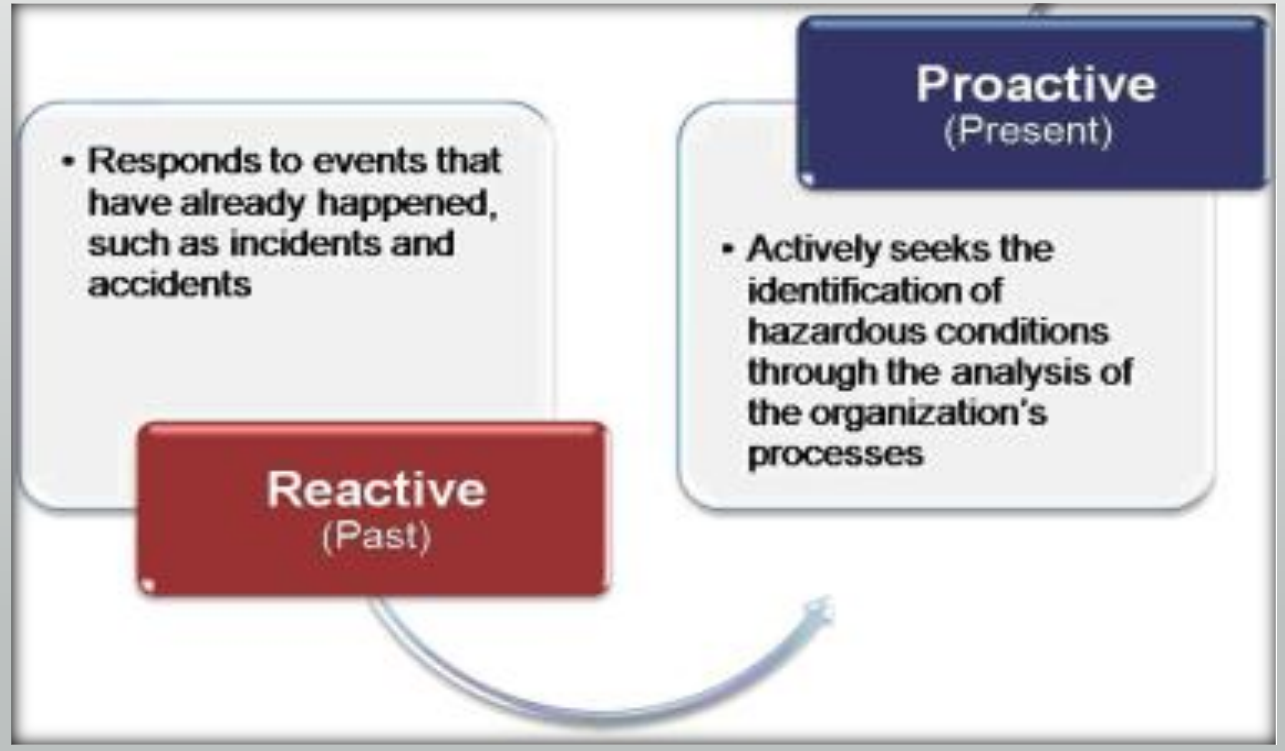
Weekend duty….

Data Automation

Data Automation



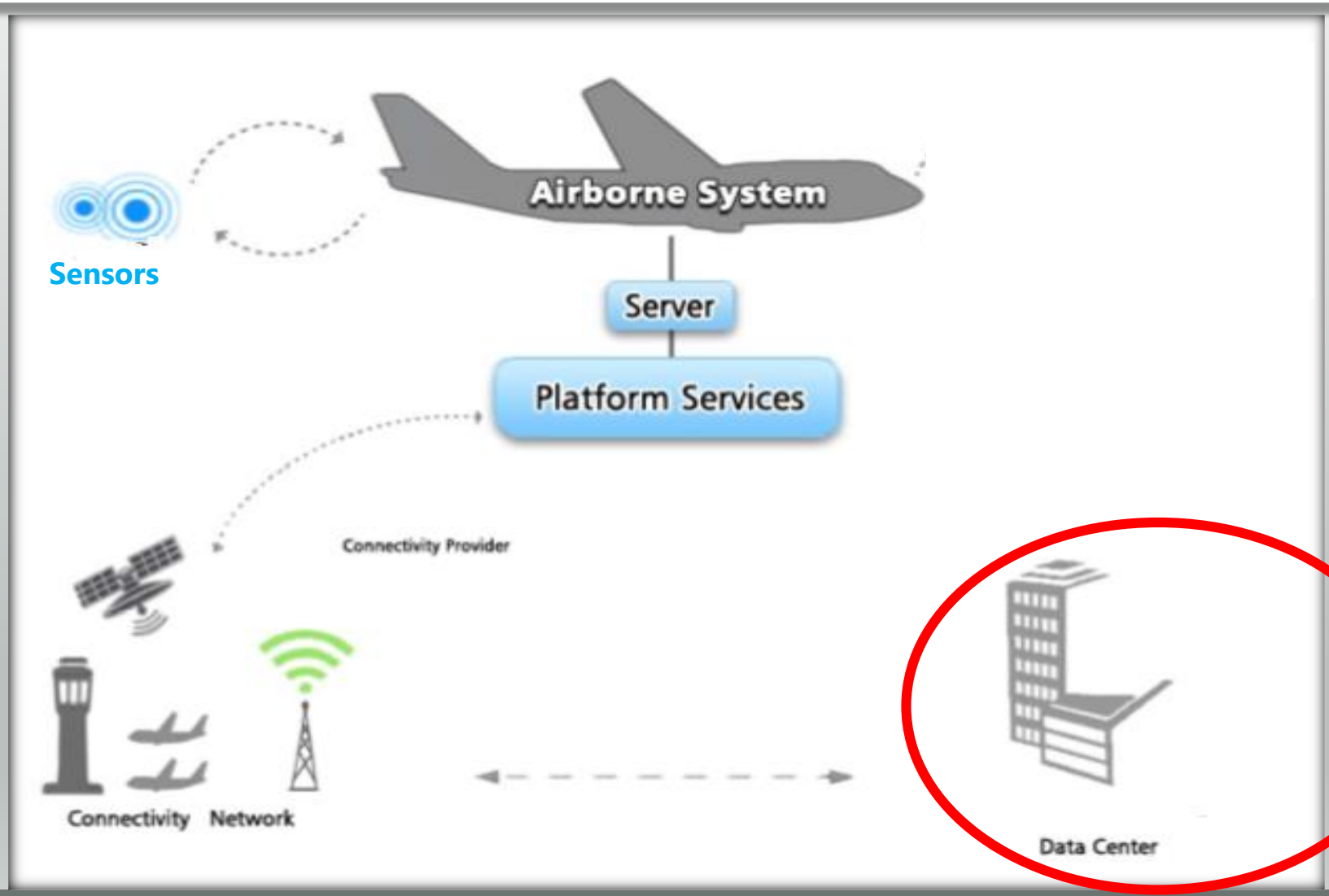
Proactive use of Data



Proactive use of Data

- Trend Monitoring
- Aircraft Health Monitoring
- MOQA
- Maintenance Forecasting
- Identification of System Variances

Smart Aircraft



Where we are today

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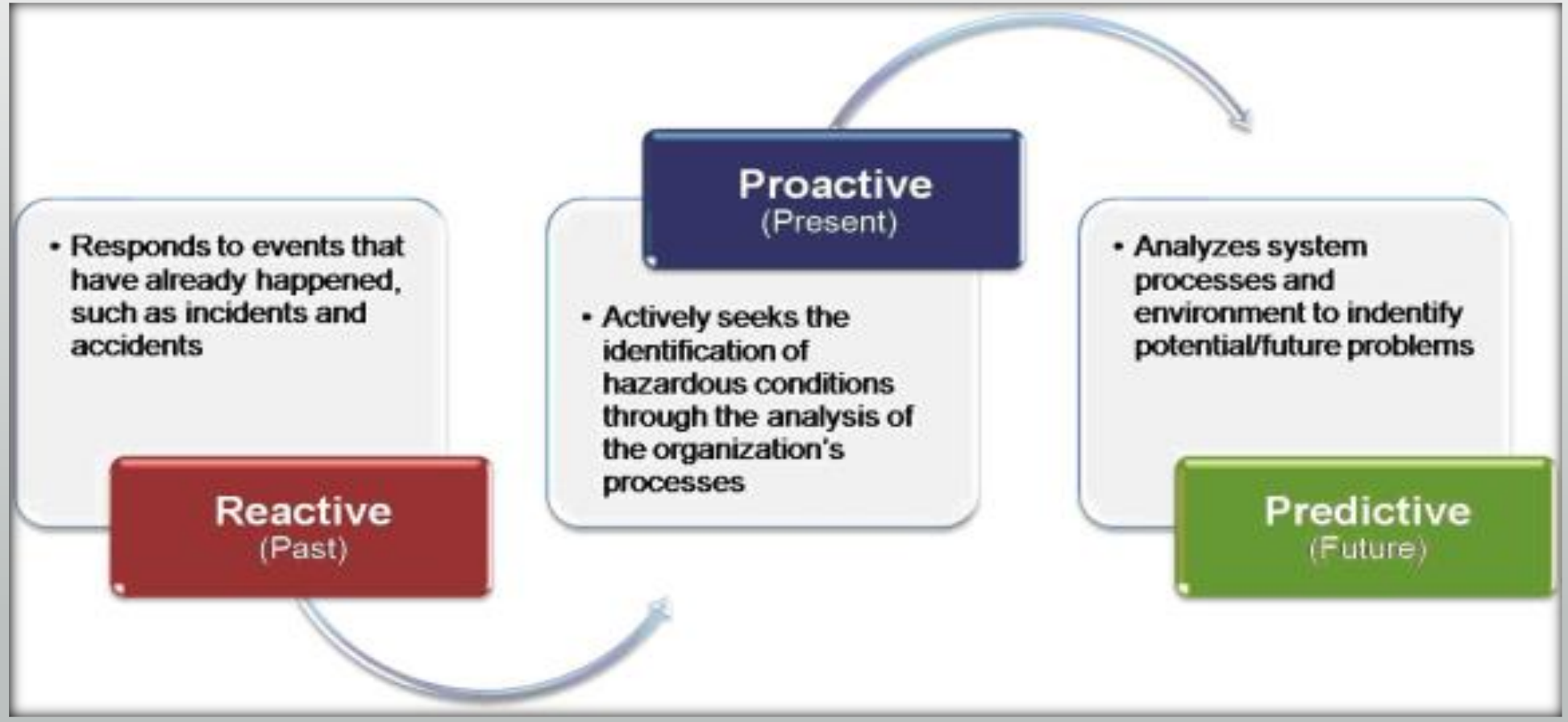
What's Next?

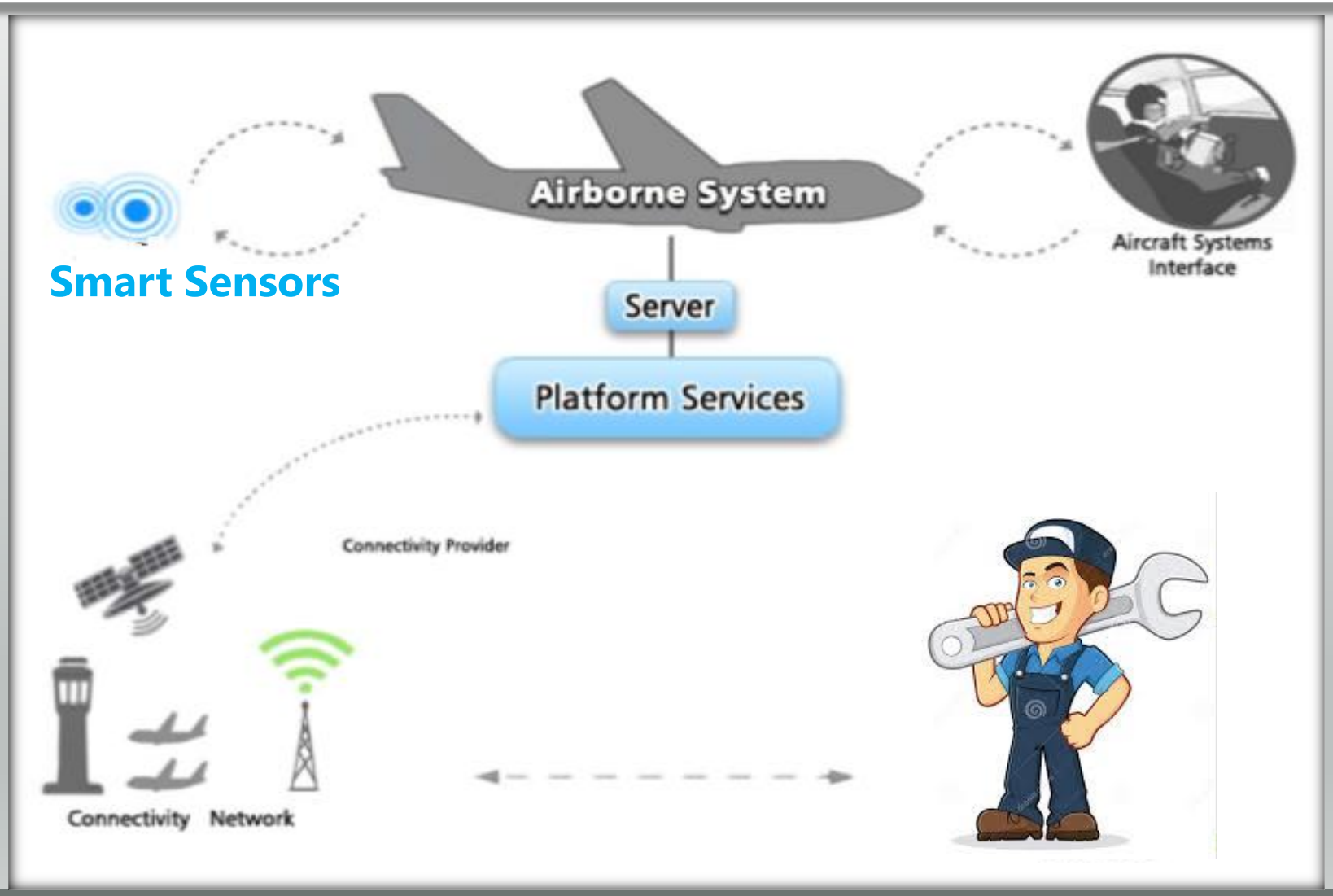
SMS Through Technology



Predictive use of Data

- Analytics built into Smart Sensors
- Eliminates need for post-data analytics
- Notification alerts sent directly to Airline Operations
- Auto response can be integrated into system mitigation

Smart Aircraft



Benefits of “Smart” Data

- Improved maintenance programs
- Improved Operational and dispatch reliability
- Reduced maintenance costs
- Reduced flight exceptions

Concerns and Limitations

- Cost of implementation – connectivity systems
- Limited data sensors
- Data / Algorithm ownership
- Data Security

Serviceability Determination & Accountability

- Predicted failure (Unserviceable vs. ‘Not yet failed’)

- Not yet unserviceable per maintenance documentation
  - Passes on-wing test limits
  - Components still within CMM limits

- Accountability
  - New test requirements and standards?
  - Who is responsible?
  - Failure to respond to predictive alerts
    - Operator vs. Regulator

THANK YOU!!