Recent Successes in Weather Technology Transfers

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Quick Look

• What’s a TRL?
• Why Buy Weather?
• WSI Tech Transfers
• Challenges in Tech Transfer
What’s a Technology Readiness Level?

• Fundamental research to an operational in-use application.
• SBIR
  – Phase I - TRL 2
  – Phase II - TRL 3-5
  – Phase III - TRL 8 Acquisition or Commercialization
• Phase 3 ~ Kickstarter
• Recognized difficulty in moving from 6 to 8
What does this look like to Kickstarter?

• Overall 37% success rate for funding, 20% for tech
• A third of all >$M funded projects are tech
• Tech generally requires more money to fund
How about Unsuccessfully Funded Kickstarters?

• Most unsuccessful projects receive minimal support
• 8% of All Unsuccessful projects are tech, 17% of all the pledged dollars are tech - tech takes more to fund

Percent of Unsuccessfully Funded Kickstarter Projects by Funding Increments
Why Buy Weather?

FAQ: Why do I need to buy this weather when I can get it for free?

• What does industry do?
  – Interface to Commercial Systems
  – Apply to Industrial Decisions - Data and Applications
  – Customize to Industry Unique Needs
  – Provide a Service Level Commitment
WSI Tech Transfer

• WSI Inflight - NASA cockpit weather R&D into Sirius commercial service
• Industry Adaptations:
  – WRF: WSI runs our own version globally
  – GTG: Implemented our own facsimile to 2.5 via published works
  – HIWC: Relied on published works on the topic
• Total Turbulence - Roots in NASA that successfully transferred into a commercial patent
Industry Leading - WSI Inflight
Industry Supporting - Safe Flight 21, CAPSTONE, and ADS-B FIS-B

In the Capstone project, a 47% reduction in accidents was seen for Capstone-avionics equipped aircraft.

http://ipadpilotnews.com/2015/06/ads-b-weather-look-like/
FAA Weather Related Funding

- Peaks and Valleys
- Federal budget vs. Actuals
- Program Reallocations
Challenges in Tech Transfer

• The Premise of RTO is that there will be “R”
• The attrition rate of “R” to “O” is high
• Federal dollars for RDT&E
  – Susceptible to the same budget constraints
  – Nearly 90% goes to large primes for R&D
    • Ships, planes, and satellites are expensive
  – Organizational alignment between RDT&E and Ops