Research To Operation

Federal Aviation Administration

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Research to Operations Objectives

- **Drive research from performance requirements from the outset**
- **Efficiently and effectively move research results into operational use**
- **Clearly identify what is expected from both types of operations**
  - Operational ***production*** of weather information
  - Operational ***use*** of weather information
- **Learn from past efforts**

Challenges We Face Today In R&D

- **ICAO, Airline Industry, and FAA are embracing a safety culture that features QMS, SMS, ISO/iCMM practices**
  - Impacts every FAA change to the NAS including weather support
  - Slow start as new process but will become second-nature, streamlined
- **Weather-in-the-cockpit evolving from situational awareness to tactical decision support**
  - Information latency, reliability, human factors become critical
  - Ground service, communications, data link reliability become critical
- **New regulatory approach needed for 4D Wx grids**
  - Migration away from regulating visualizations
  - Standards for information quality and visualizations may be the approach

Challenges We Face Today In R&D

- **More efficient transition of research software to operational software needed**
  - Better coupling of R&D and production environments through adoption of Open Standards
- **Need to manage research to reduce number of "products"**
  - Each new "product" should replace one or more existing product
  - New "products" should become "primary" from the outset
- **Improved performance requirements to support NextGen capabilities are needed to guide research**
  - Performance requirements tied directly to operational impacts
  - Machine-to-machine integration presents significant challenges