Reshaping NASA's Aeronautics Research Program

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- Our Goals:
  - Re-establish our **dedication to mastery of the core competencies of Aeronautics** in subsonic (rotary & fixed wing), supersonic, and hypersonic flight;
  - Focus research in areas that are appropriate to NASA's unique capabilities; and
  - Directly address the needs of the Next Generation Air Transportation System (NGATS) in partnership with the FAA and other agencies.

Re-shaping Aeronautics

- **Fundamental Aeronautics Program**
  - Establish Projects that provide continual, long-term investment in the fundamentals and that build upon that investment to develop system-level, multidisciplinary capabilities that will enable both civilian and military communities to build platforms that meet their specific needs.
  - Establish a National Assets Program to ensure that the essential Wind Tunnel Facilities are maintained.
- **Aviation Safety Program**
  - Focus research in areas that are appropriate to the unique capabilities of NASA.
  - Create strong, technically sound projects in Integrated Vehicle Health Management, Aging Aircraft, Integrated Resilient Aircraft Control and Integrated Intelligent Flight Deck Technologies.
- **Airspace Systems Program**
  - Realign to address the Air Traffic Management R&D needs of the Next Generation Air Transportation System as defined by the Joint Planning & Development Office (JPDO).

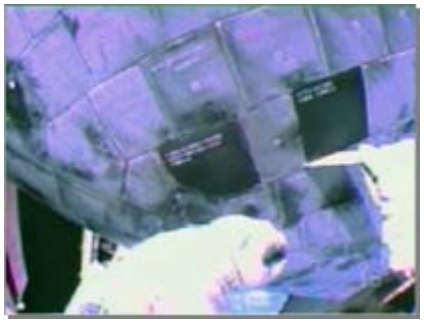
All projects in each program will have multi-year plans with clearly defined milestones that will demonstrate measurable progress

Benefits

- **NASA will take responsibility for the intellectual stewardship of the core competencies of Aeronautics for the nation.**
  - Reinvest in our in-house expertise
    - Ensures the availability of a world class resource (personnel and facilities) ready to be drawn upon by civilian and military communities, and other Government agencies.
    - Ensures our ability to support the endeavor of Aeronautics for decades to come.
- **We will form strong partnerships with Universities**
  - Integrate students and faculty as true partners in our research projects
    - Enables replenishment of workforce at both NASA and in industry
- **Industry partnerships**
  - Shift from near-term, evolutionary procurements to long-term, intellectual partnerships
    - Ensures ability to provide long-term, stable investment in capabilities that will benefit all of industry.

Benefits

- **Support of Vision for Space Exploration**
  - Space exploration relies on the fundamentals of aeronautics. E.g,



    - Recent gap-filler situation highlighted our inadequate investment in fundamentals of turbulence, Computational Fluid Dynamics (CFD), and aerothermodynamics.
    - Integrated Vehicle Health Management will also be a critical core competency for space exploration.
- **Healthy Wind Tunnel Infrastructure**
  - Benefits for NASA, DoD, industry and academia