



Integrating “New Entrants” Into New Tools

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UAS and Space Transportation

Providing
“Satisfaction through Quality”
...with every solution



Who Are These Not So “New Entrants”?

Drones
Rockets
Balloons
Super/Hypersonic Flight



New Vehicles, Missions, Locations

- Technical evolution development cycles have accelerated from decades to years or even months
- Concept exploration and development to employ new technology has accelerated across the landscape
- Business models are rapidly being generated, modified or abandoned to take advantage of new technology
- Moving from rural and coastal locations to densely populated metropolitan areas and inland launch and landing sites
- Public acceptance and system safety assurances are critical elements for success



Decision Support Tools and FAA Critical Systems

- USG utilizes internal efforts, other USG (NASA), contractors, FFRDC's and industry to develop new concepts and capabilities
- Industry moves the quickest and has the most at stake with regards to access, efficiency and profitability
- Prototypes and Decision Support Tools (DST) developed by
 - Industry – to inform/validate proof of concept efforts
 - USG – to identify operational needs and technical requirements
 - Industry and USG together for NAS access and operational efficiency
- Weather forecast, delivery and visualization tools need to be changed, updated, reinvented or created to serve these operators



Integration

- Incorporating prototypes and DSTs into critical systems enables operational integration
- Critical systems like STARS and ERAM take YEARS to update and the pipelines for enhancements and changes are long
- The big challenge – bringing it all together
 - Numerous research participants
 - Developed with evolving standards
 - Varying assumptions
 - Scalability across all NAS operations
 - Timelines of need are different
- Keeping FAA and Industry in near lock-step development
- Streamlines the process
- Adapting agile development practices
- Leads to faster, more eloquent integration solutions



Thank You
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