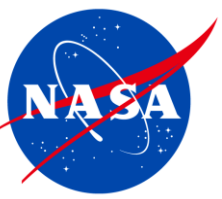




# Managing A Safe and Successful Multi-User Spaceport

**Taylor M. Dacko – Safety & Mission Assurance (S&MA)  
NASA Kennedy Space Center, FL**

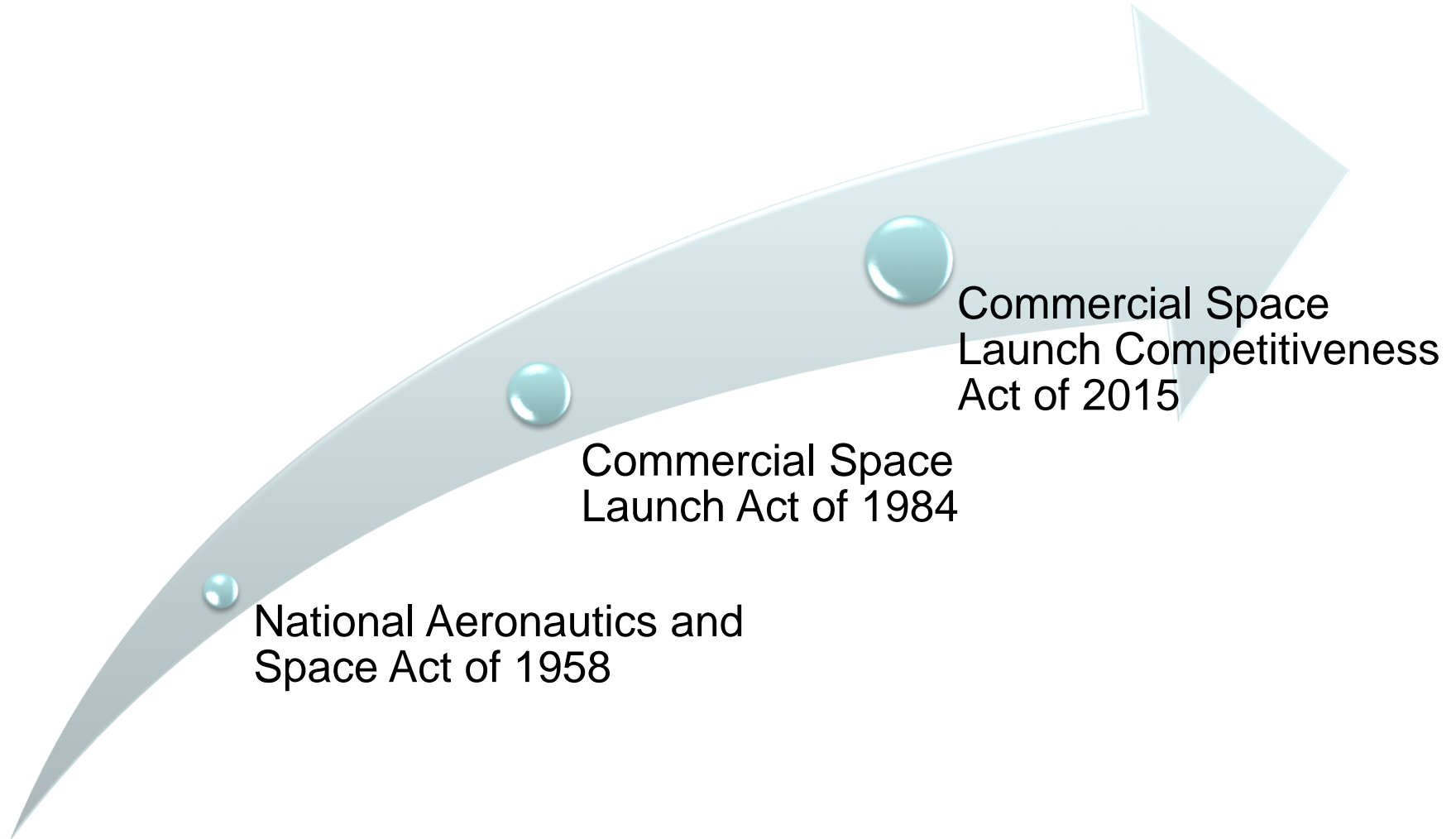


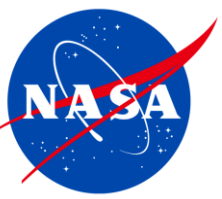
# Commercial Space Legislation



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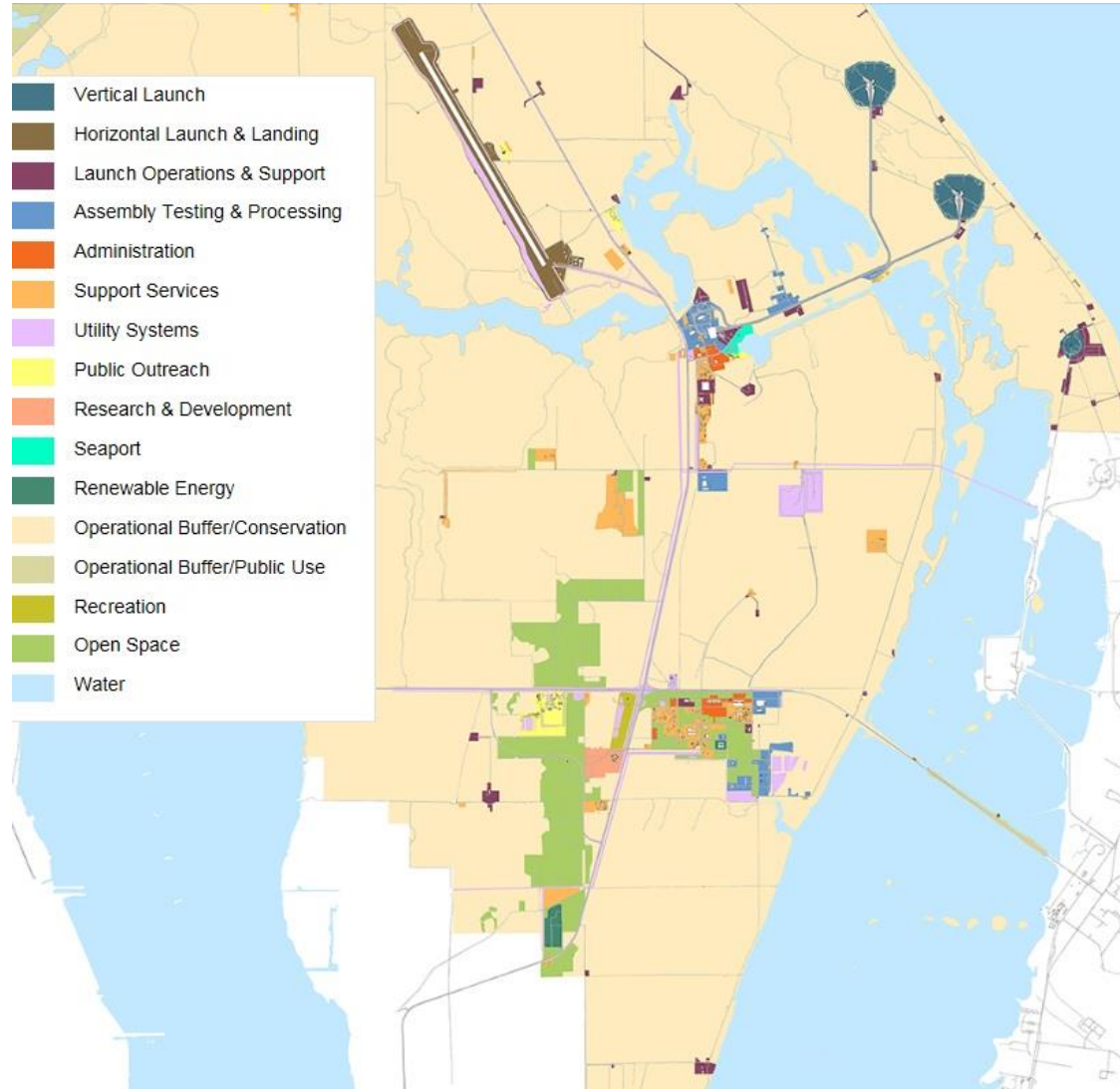
# Transition From Shuttle to Multi-Use



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- Space Shuttle Program Transition & Retirement led to underutilized infrastructure
- Commercial Space Launch Act (CSLA) and Space Act Agreements (SAA) allowed NASA to partner with industry
- NASA Strategic Goals and KSC Strategic Plan goals set forth Multi-Use concept





# Authority for Safety Programs



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Office of Safety & Mission Assurance (OSMA) – HQ

NASA Procedural Requirements (NPR)

NASA Safety Standards & Programs

Safety & Mission Assurance (S&MA) Directorate - KSC

Kennedy Procedural Requirements  
(KNPR)

Implementation of Programs

Institutional Safety Division – S&MA Directorate, KSC

Plans, Processes, and Procedures



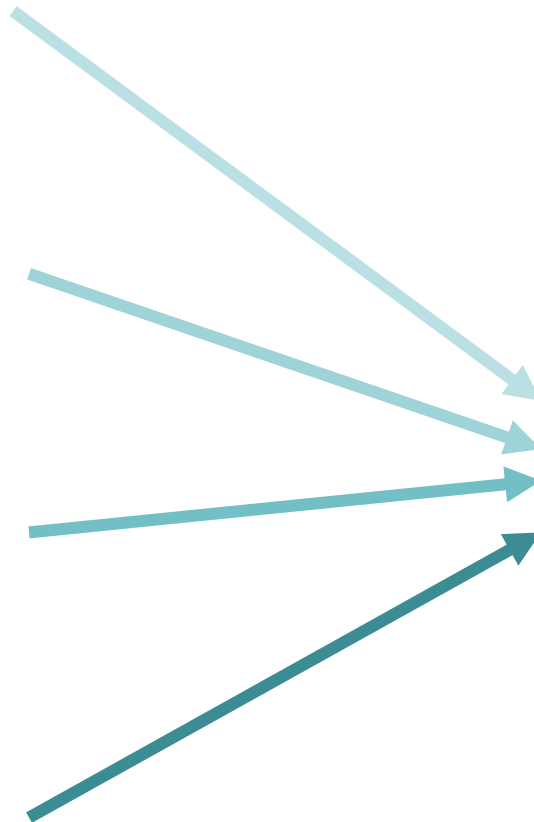
# OSHA Multi-Employer Citation Policy



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- ◆ **Creating Employer**
  - Introduces the hazard
  
- ◆ **Controlling Employer**
  - Manages the hazard
  
- ◆ **Correcting Employer**
  - Mitigates the hazard
  
- ◆ **Exposing Employer**
  - Affected by the hazard



Spaceport  
Operator &  
Manager



# The Safety Volumes



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- ◆ KNPR 8715.3 Safety Procedural Requirements
  - Volume 1 – “for Civil Servants/NASA Contractors
    - Ex. NASA Payload Processing, Laboratories, Office Space
  - Volume 2 – “for Partner Organizations Operating in Joint-Use Facilities”
    - Ex. High Bay #2 within Vehicle Assembly Building
  - Volume 3 – “for Partner Organizations Operating in Exclusive-Use Facilities”
    - Ex. Launch Complex 39A Perimeter



# Risk Assessment



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- ◆ Operational Assessment – Safety Equivalence
  - “a.1) A description of the operations (including construction activities) detailing location(s), use of KSC’s transportation infrastructure, hardware involved, and hazardous chemicals (as defined in 29 CFR 1910.1200) involved. Description of hazards and hazardous operations.” (*KNPR 8715.3-3*)
  - “c. If NASA determines that hazards resulting from Partner activities may affect NASA personnel or property because the hazard controls are not adequate, the Partner shall provide further clarification and implement additional controls as required by NASA.” (*KNPR 8715.3-3*)
- ◆ Requirements Verification – Meeting the Agreement
  - Documentation Review
  - Surveillance Planning



# KSC Stakeholders



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## ◆ Spaceport Integration & Services Directorate

- Customer Liaisons
  - Daily coordination on issues and support services
  - Communication with S&MA on areas of risk
- Spaceport Integrated Master Schedule (SIMS)
  - Prioritization and deconfliction of operations
  - Conveys major hazards

## ◆ Institutional and Program S&MA

- Identify targeted risks and associated requirements
- Includes Explosives, Range, Pressure Systems, Lifting Devices & Equipment, Mishap Program and others





# Application to Commercial Launches



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- ◆ Range Safety Analysis
  - Webb-McNamara Agreement between DoD and NASA
  - FAA Launch Operators License
  - Commercial Space Launch Agreement
  
- ◆ NASA's Risk Assessment (through Agreement)
  - Expectation of Casualty ( $E_C$ )
    - Emergency Operations Center (EOC)
  - Hit Probabilities ( $P_i$ ) for critical facilities
  - Launch support services
    - Spaceport Integration & Services (Customer Liaisons, SIMS)



# Questions?



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[kscpartnerships.ksc.nasa.gov](http://kscpartnerships.ksc.nasa.gov)