

The Florida Senate  
**COMMITTEE MEETING EXPANDED AGENDA**  
MILITARY AFFAIRS, SPACE, AND DOMESTIC SECURITY  
Senator Altman, Chair  
Senator Hill, Vice Chair

**MEETING DATE:** Tuesday, February 8, 2011  
**TIME:** 11:15 a.m.—1:15 p.m.  
**PLACE:** Mallory Horne Committee Room, 37 Senate Office Building

**MEMBERS:** Senator Altman, Chair; Senator Hill, Vice Chair; Senators Bennett, Bullard, Jones, Sachs, and Storms

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| TAB | BILL NO. and INTRODUCER         | BILL DESCRIPTION and<br>SENATE COMMITTEE ACTIONS | COMMITTEE ACTION |
|-----|---------------------------------|--|------------------|
| 1   | Presentation by Space Florida   |  | Presented        |
| 2   | Presentation by Cecil Field     |  | Presented        |
| 3   | Presentation by NASA            |  | Presented        |
| 4   | Presentation by 45th Space Wing |  | Presented        |

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# *Testimony*

## *Senate Domestic Security, Space, and Military Affairs Committee*

**Frank DiBello, President  
Space Florida**

**February 8, 2011**



**Launch Systems and Support**



# TOPICS

- *Role in Economic Development*
- *Florida's Current Space Industry*
  - *NASA*
  - *45<sup>TH</sup> SPACE WING (USAF)*
  - *Commercial Providers*
- *Vision 2020 – Diversification*
- *Recent Initiatives / Achievements*



Adventure Tourism



SPACE FLORIDA



# **STRUCTURE AND ROLE**

***Legislatively Chartered Public Corporation  
&  
Independent Special District of the State***

***Reports to the Office of the Governor &  
Serves as an Agent of the State  
for Aerospace Economic Development***

***Governance through an independent board of  
directors, the Legislature and the Governor***

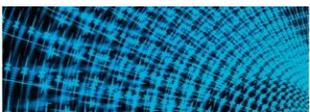


**Ground and Operations  
Support Systems**



# MISSION & GOAL

- *Grow the Size, Diversity, Health and Robustness of the State's Space Industry*
- *Create High-Quality, High-Wage Jobs in Florida's Space-related Industries for the economic well-being of the Citizens of the state*
- *GOAL: Three-fold increase in aerospace-related jobs and economic contribution by 2020*



Communications,  
Cybersecurity and Robotics



# FLORIDA'S CURRENT SPACE INDUSTRY

## Horizontal Industry ... Cuts across many sectors.

- *Presence is pervasive in our everyday Life*
- *Heritage defined by NASA and Air Force heritage*
  - *Now strongly multi-agency and commercial*
- *Proven technology and Innovation Catalyst*
- *Spawns thousands of new companies / applications*
- *Heavily based upon launch activity*



Adventure Tourism



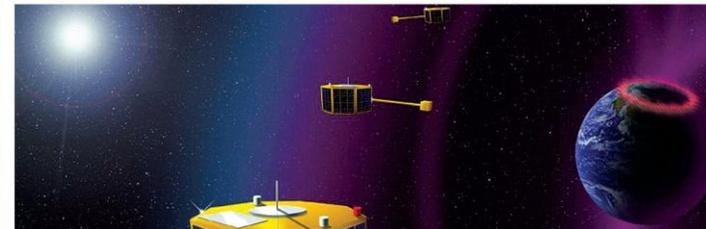
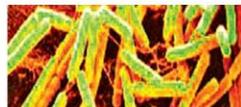
SPACE FLORIDA



# NASA



Satellite Systems and Payloads





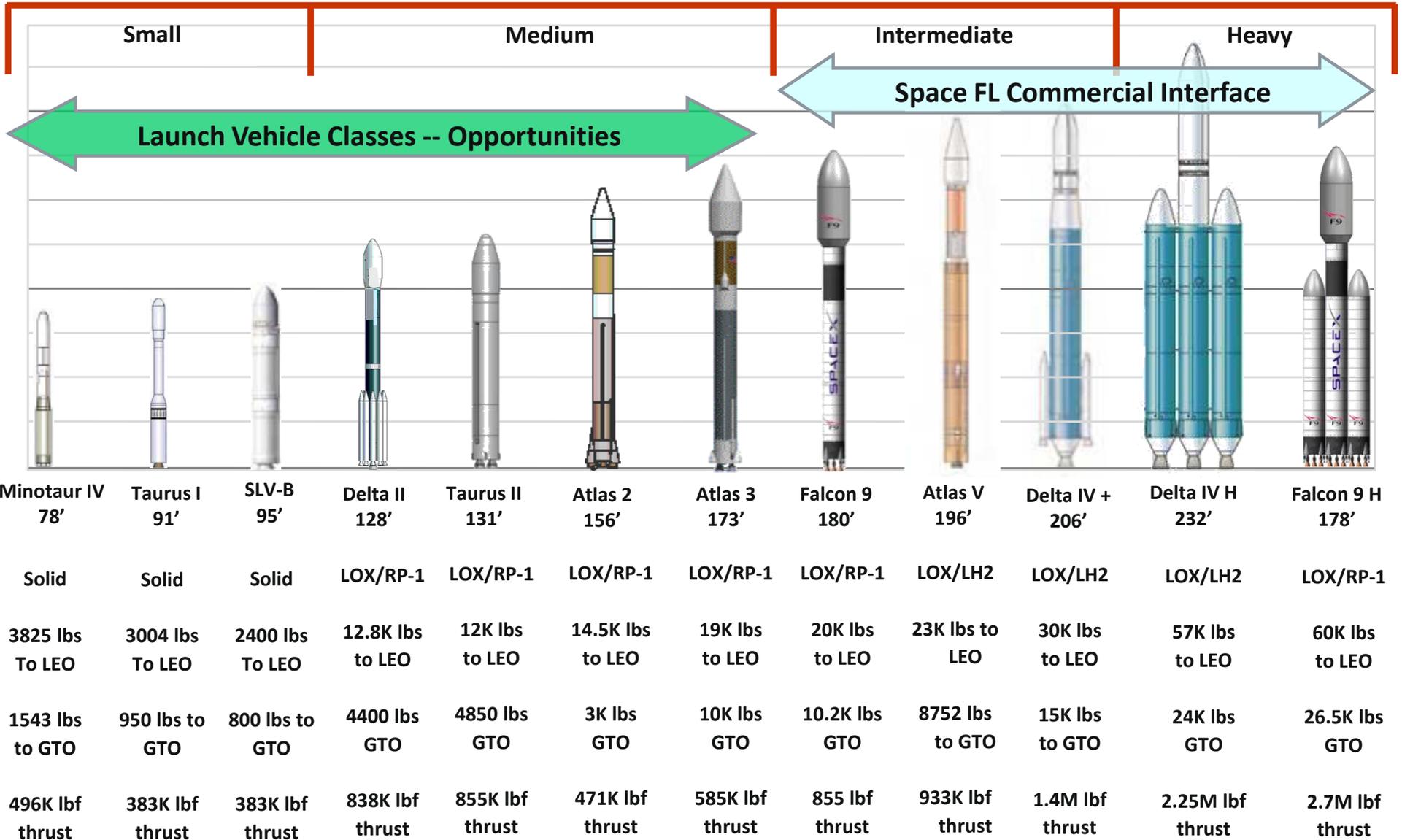
# SPACE X



[www.spaceflorida.gov](http://www.spaceflorida.gov)



# SPACEPORT CAPABILITIES



Ground and Operations Support Systems

# UNITED LAUNCH ALLIANCE (ULA) DELTA IV



ISS and Human Life Sciences



# UNITED LAUNCH ALLIANCE (ULA) ATLAS V



[www.spaceflorida.gov](http://www.spaceflorida.gov)



# STRATEGIES ... VISION 2020 PLAN

- *Diversification - Statewide aerospace business development in 10 focused market sectors - new wealth and job creation*
- *Vertical Integration of the Supply Chain – Expanding Depth and Breadth of the In-state Supplier Base*
- *Targeted Investments - Leveraging key state assets & economic development tools for job creation and industry growth - Statewide!*



Adventure Tourism



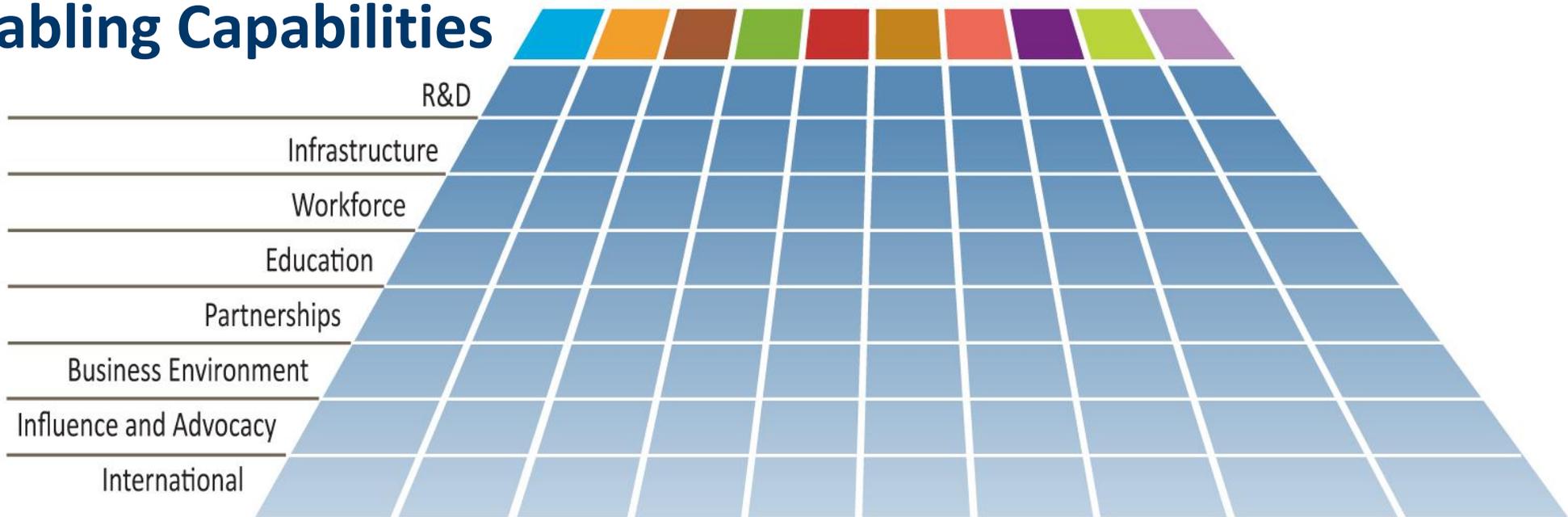
SPACE FLORIDA



# Target Market Horizons

- Launch Systems / Support
- Satellite Systems / Payloads
- Ground / Operations Support Systems
- Agriculture / Environmental Monitoring
- Civil Protection/Emergency Management
- ISS / Human Life Sciences
- Com / CyberSecurity / Robotics
- Adventure Tourism
- Clean Energy
- Advanced Materials / New Products

## Enabling Capabilities



# PLANS / NEW INITIATIVES

## *Transportation Infrastructure:*

- *Launch Complex-46: light-medium lift, solid fuel; USAF Spaceport 3 and Minotaur launches*
- *Launch Complex-36 / other ..... face the market! basic prep until contract, Masten Demo Ops*
- *Exploration Park & Space Life Sciences Lab*
- *Support growth of commercial space transportation infrastructure*
- *Network of horizontal launch facilities*
- *Partnerships & International Collaboration*



Launch Systems and Support



# RECENT ACHIEVEMENTS

*Avera: Energy efficient vehicle (1,200 jobs by 2015)*

*AAR Airlift Group - Relocation (225 jobs by 2012)*

*UKTI / ESA – International MOUs (300 jobs by 2014)*

*Exploration Park - Groundbreaking on June 25<sup>th</sup>*

*Masten Space Systems – LOI, Demo Flight SLC-36*

*Space X - Falcon 9 & Dragon Capsule*

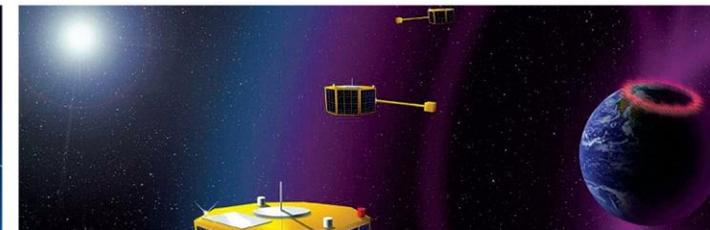
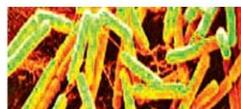
*Starfighters – Space Act Agreement (20 jobs)*

*Lockheed Martin - Created 450 jobs under Orion Program*

*ULA Launch Complex Financing*



Satellite Systems and Payloads

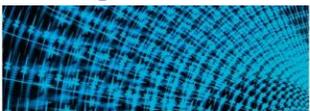


# *Senate Testimony*

## *Domestic Security, Space, and Military Affairs Committee*

**Frank DiBello, President  
Space Florida**

**February 8, 2011**



**Communications,  
Cybersecurity and Robotics**

|       |       |        |     |
|-------|-------|--------|-----|
| 26.27 | +58   | +2.09% | 3   |
| 29.80 | +78   | +2.62% | 500 |
| 91.14 | +49   | +5.4%  | 80  |
| 35.57 | +1.19 | +3.35% | 54  |
| 38.72 | -46   |        |     |
| 88.24 |       |        |     |



Florida Senate Committee  
on Military Affairs, Science and  
Domestic Security

Chair: Senator Thad Altman  
Vice-Chair: Senator Tony Hill

**Cecil Airport  
Overview & Commercial  
Spaceport Initiative**



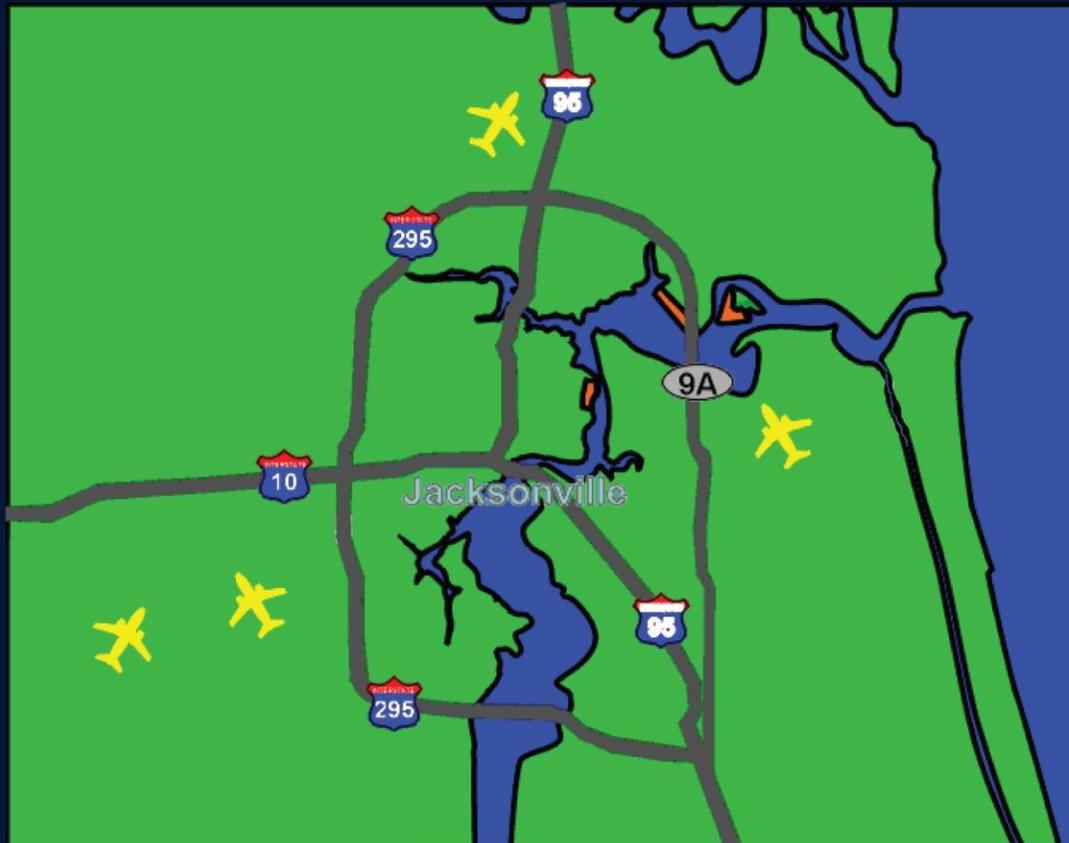
**JAA**  
Jacksonville  
Aviation  
Authority



# Jacksonville Aviation Authority Airport System



**JAA**  
Jacksonville  
Aviation  
Authority



**JAX**  
Jacksonville  
International  
Airport



**Cecil**  
Cecil Airport



**JAXEX**  
Jacksonville Executive at Craig Airport



**Herlong**  
Herlong Recreational Airport

# Jacksonville Aviation Authority Airport System



**JAA**  
Jacksonville  
Aviation  
Authority



# Cecil Airport History

## 1942 - 2010



**JAA**  
Jacksonville  
Aviation  
Authority

**1942** - Opened by Navy

**1945** - Closed

**1948** - Reopened by Navy

**1952** - Major reconstruction

**1999** - Closed by Navy. Reopened by JAA

**2010** - Spaceport License



**Cecil**  
Cecil Airport

# Airport Information



**JAA**

Jacksonville  
Aviation  
Authority

- 3 – 8,000' runways, 1-12,500' runway
- Parallel Taxiways for all Runways
- Full Service FBO
- Air Traffic Control Tower
  - 7:00 a.m. – 9:00 p.m. 7 days/week
- All weather operations
  - Instrument Approaches
  - Airport Lighting
- Aircraft Rescue & Firefighting Facility (ARFF)
- Active Cecil Airport Advisory Committee (CAAC)
- Operations in 2010: 81,687



**Cecil**

Cecil Airport

# Cecil Airport Information



# JAA

Jacksonville  
Aviation  
Authority



# Capital Investment 1999 - 2010



**JAA**  
Jacksonville  
Aviation  
Authority

**\$89.5 M** ←

|          |                                     |
|----------|-------------------------------------|
| \$37.9 M | JAA                                 |
| \$35.4 M | FAA                                 |
| \$10.8 M | FDOT                                |
| \$2.0 M  | Economic Development Administration |
| \$1.0 M  | State of Florida (OTTED)            |
| \$2.4 M  | GSA                                 |

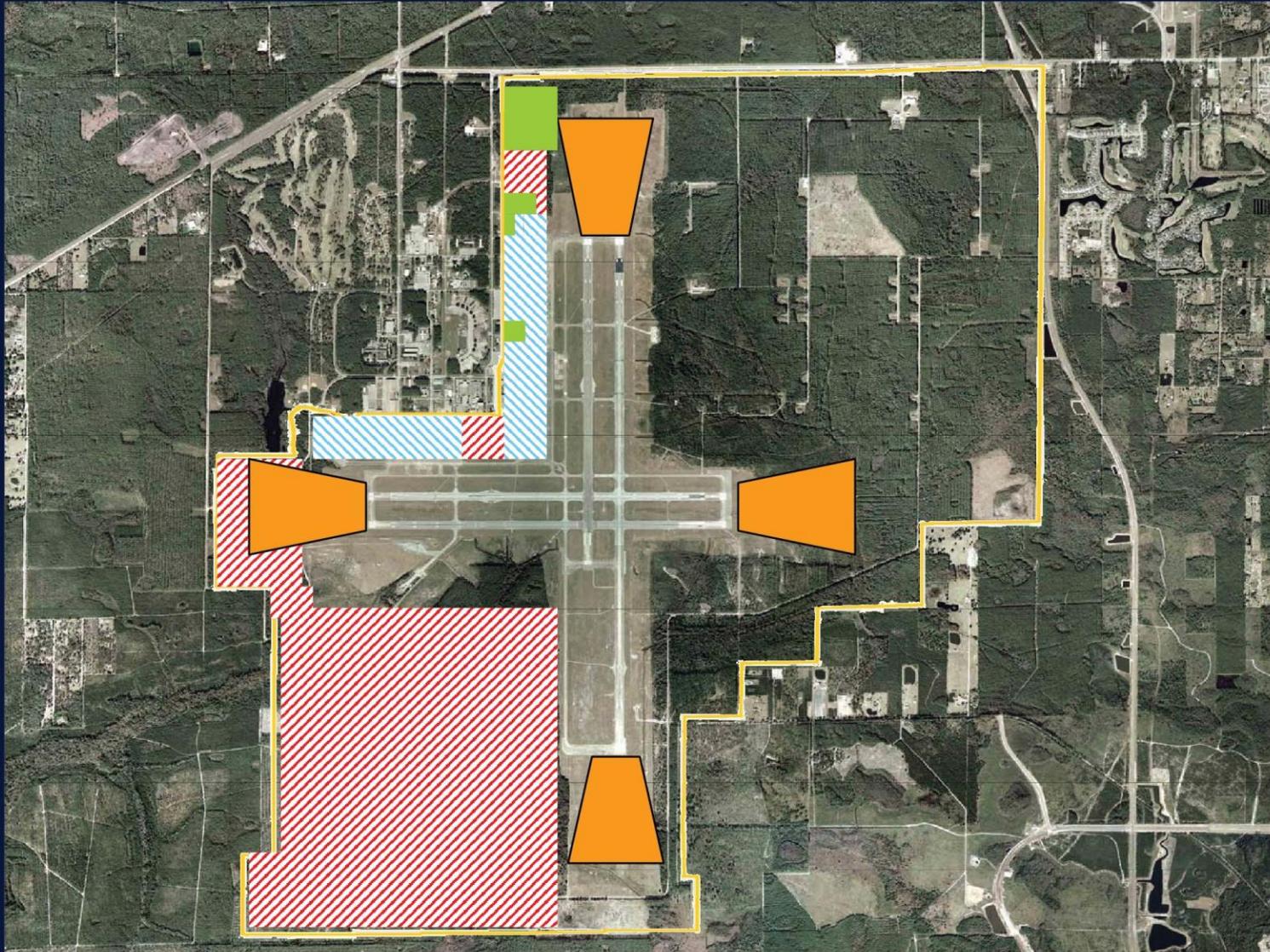


**Cecil**  
Cecil Airport

# Cecil Airport Aerial View



**JAA**  
Jacksonville  
Aviation  
Authority



# Cecil Airport Aerial View



**JAA**  
Jacksonville  
Aviation  
Authority



# Cecil Spaceport



# JAA

Jacksonville  
Aviation  
Authority

Achieved FAA Certification - January 11, 2010  
FAA #: LS 09-012  
Valid for five years

## What does the certification authorize the JAA to do?

- Operate a Horizontal Launch Site
- Store Fuel and Oxidizer
- Maintain an Explosive Site Plan and Safety Plan



**Cecil Spaceport**

*Igniting The Possibilities.*



# Cecil

Cecil Airport

# Cecil Spaceport Elements



**JAA**  
Jacksonville  
Aviation  
Authority

- Operating Corridor & Range

- Facilities & Infrastructure



**Cecil Spaceport**  
Igniting The Possibilities.

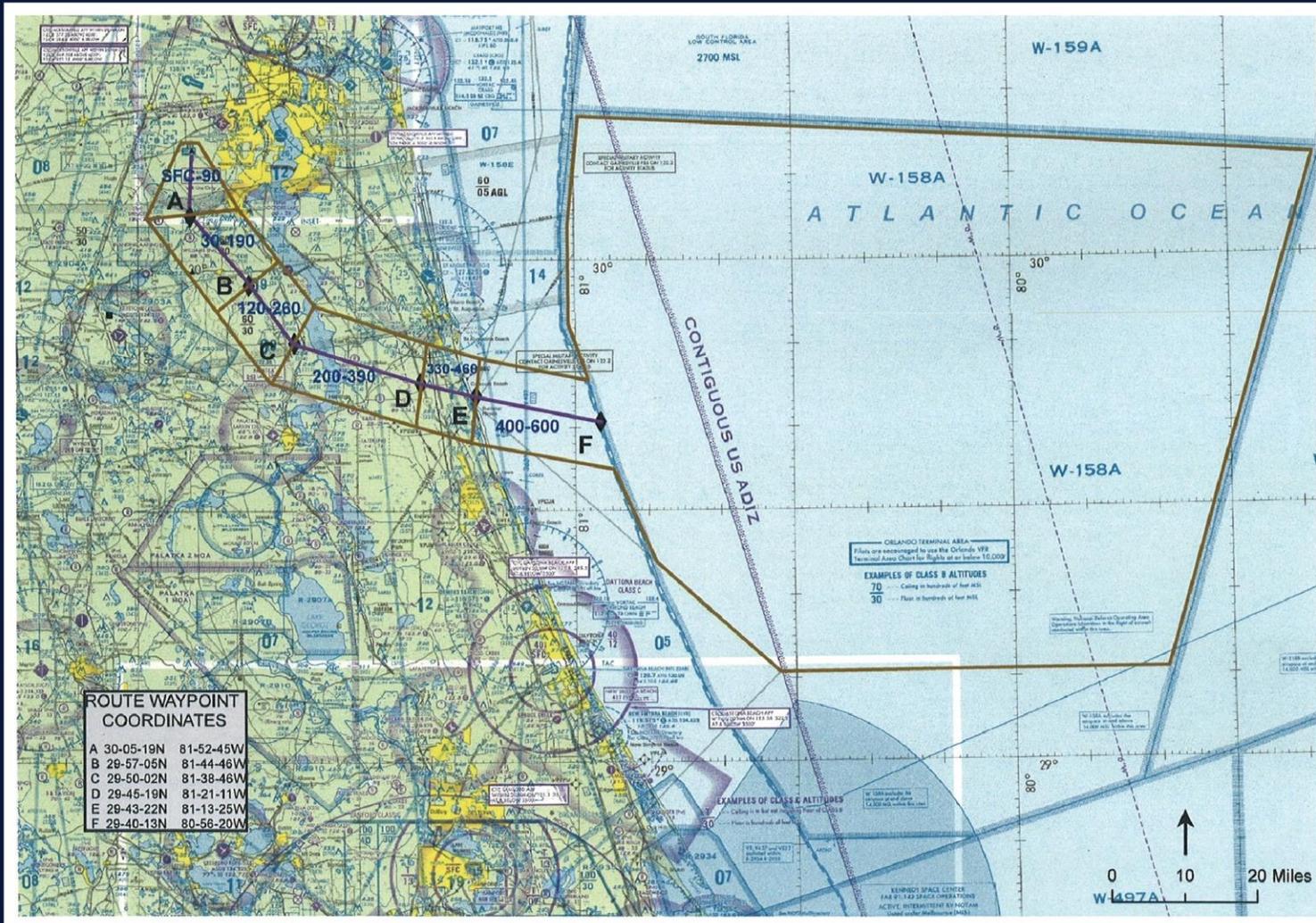


**Cecil**  
Cecil Airport

# Cecil Spaceport Flight Corridor



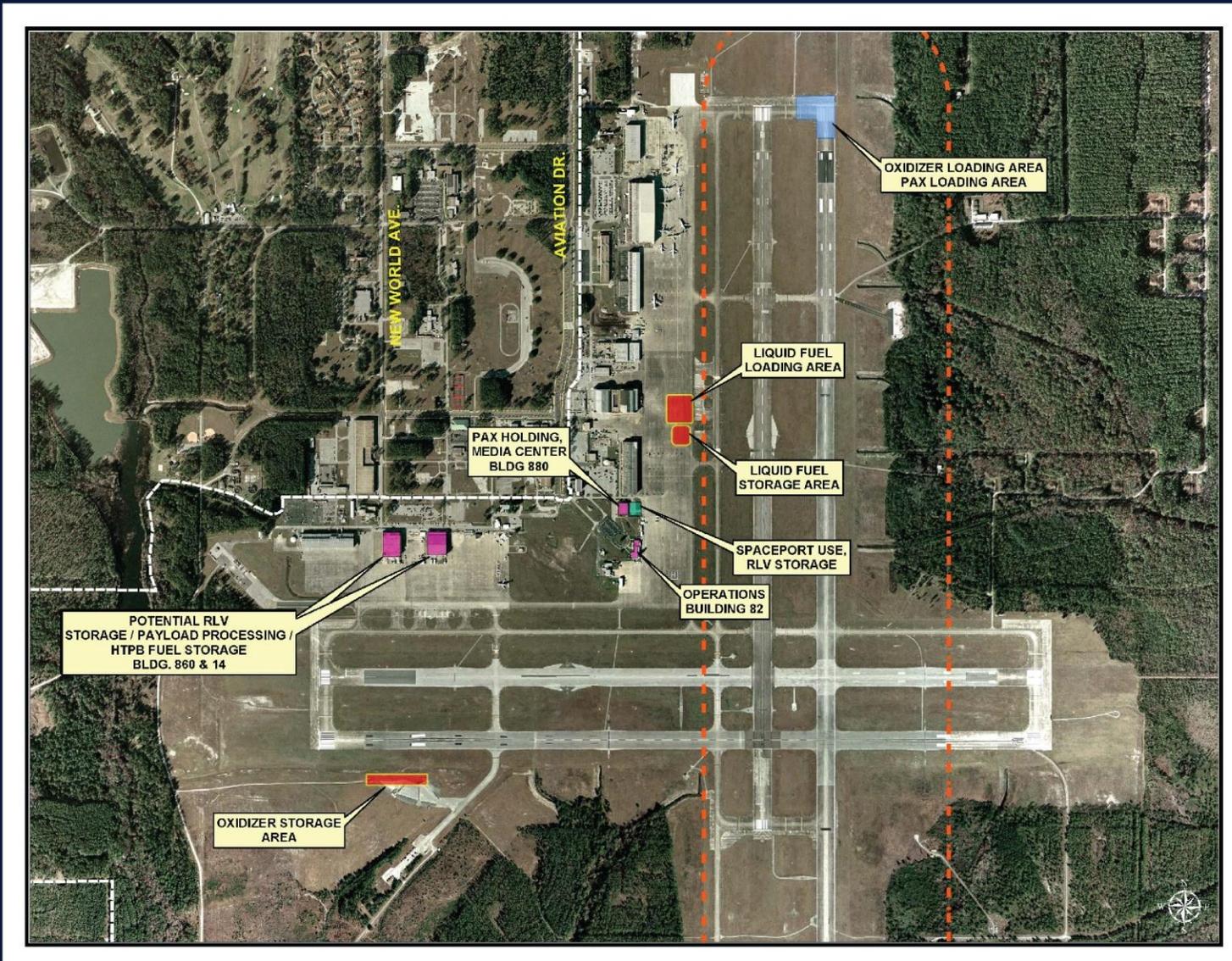
**JAA**  
Jacksonville  
Aviation  
Authority



# Cecil Spaceport Aerial View



**JAA**  
Jacksonville  
Aviation  
Authority



# Cecil Spaceport - Next Steps



**JAA**

Jacksonville  
Aviation  
Authority

- Identify Operator
- Work with Local Tourism Organizations
- Complete Spaceport Master Plan
- Point-to-Point Operations
- Continue Development of Infrastructure
- Work to Develop Funding Sources



**Cecil Spaceport**

Igniting The Possibilities.



**Cecil**

Cecil Airport

## In Summary



**JAA**  
Jacksonville  
Aviation  
Authority

## Much has been accomplished

- Many airside/landside infrastructure improvements
- Four new hangars constructed
- All hangars & buildings leased
- Active and supportive community

**The airport is well equipped and poised to become the premier GA, MRO, industrial, & logistical airport in the SE**

Strategic Plan sets the course for continued growth and development of our horizontal lift commercial spaceport.



**JAA**

Jacksonville  
Aviation  
Authority



**Cecil**

Cecil Airport



**Cecil Spaceport**

*Igniting The Possibilities.*

# Questions

**The Sky's The Limit...Not In Our Business.**

National Aeronautics and Space Administration

# KENNEDY space center



**JANET PETRO**  
Deputy Director  
Kennedy Space Center



[www.nasa.gov](http://www.nasa.gov)



# Building on our History

- NASA was established by the National Aeronautics and Space Act on July 29, 1958 and became operational on October 1, 1958.
- NASA's mission is to drive advances in science, technology, and exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of the Earth.





# KSC's Vision and Mission

vision

KSC is the world's preeminent launch complex for government and commercial space access, enabling the world to explore and work in space.

mission

KSC safely manages, develops, integrates, and sustains space systems through partnerships that enable innovative, diverse access to space and inspires the Nation's future explorers' capabilities to make accessing space less costly and more routine.





# Priorities for KSC

## Near-term

- Launching 3 remaining Shuttle missions
- Launch Services Program—6 launches in 2011

## KSC's overarching goals:

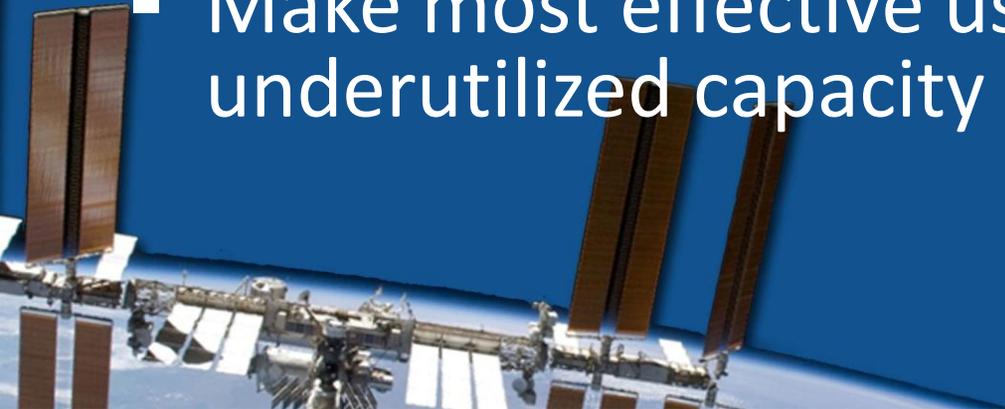
- Ensure mission success by providing government and commercial access to space.
- Develop, operate, and sustain a robust launch complex for all providers.
- Conduct research and technology development to enable mission success.
- Provide a robust institution to enable success.
- Inspire, engage and educate through enriching programs, internships, and mutually beneficial partnerships.





# Center Planning & Development Office

- Perform Center-wide planning to provide flexible framework for future spaceport development
- Develop and manage Center agreements for non-programmatic, commercial and other Government partnerships
- Increase economic diversity of the Center
- Provide consistent, integrated processes for partnerships
- Make most effective use of KSC's underutilized capacity





# Opportunities with Space Florida

Teaming with Space Florida in 10 target market areas where aligned with KSC mission and vision:

- Space Transportation & Technologies Support Systems
- Satellite Systems and Payloads
- Ground & Operations Support Systems
- Agriculture, Climate & Environmental Monitoring
- Civil Protection & Emergency Management
- ISS and Human Life Sciences
- Communications, Cybersecurity and Robotics
- Adventure Tourism
- Clean Energy
- Advanced Materials & New Products





# Marketing Our Capabilities





# Forging Partnerships





# Emerging Commercial Space Partnerships

Currently exploring opportunities with companies such as:

Boeing

ATK

Sierra Nevada

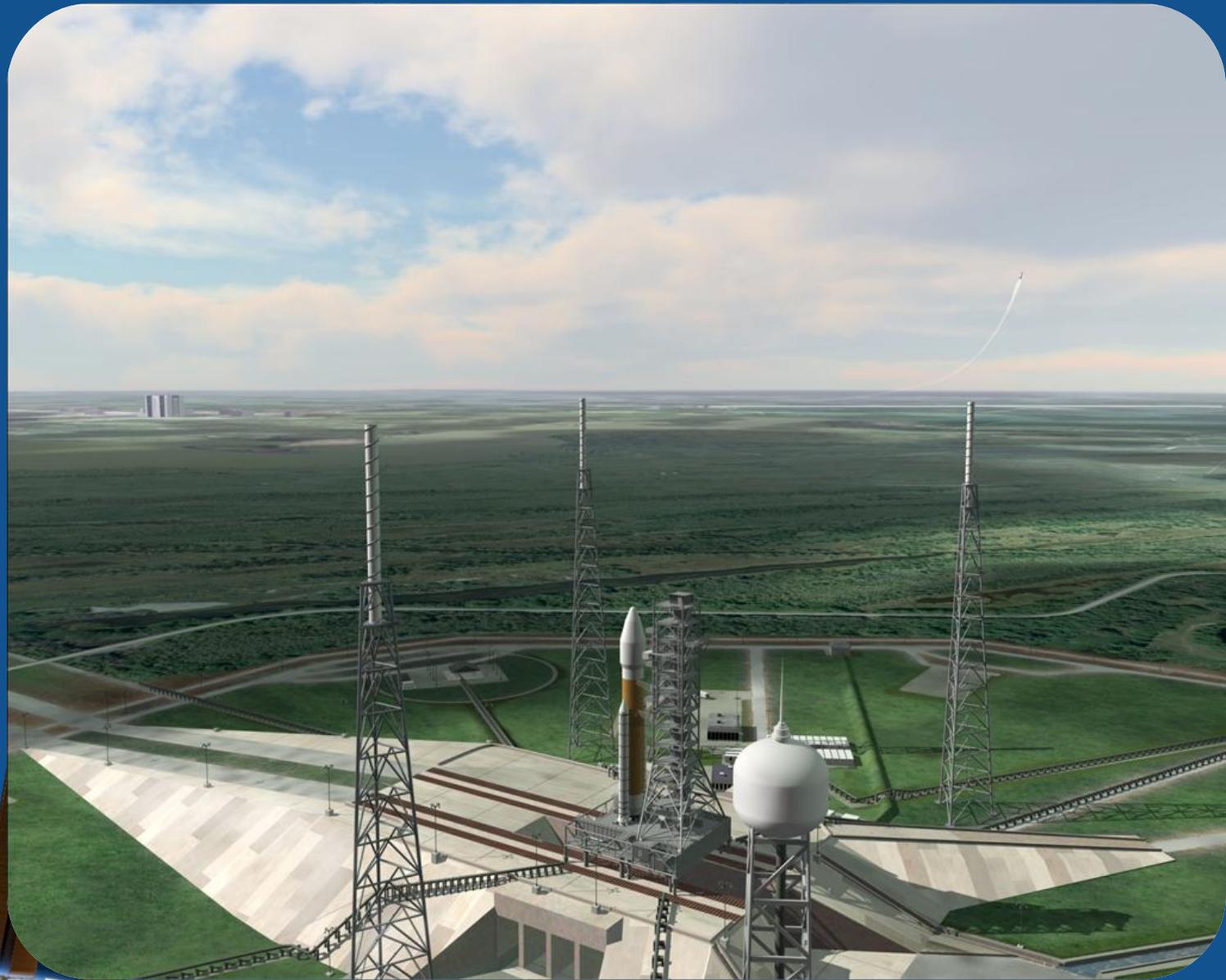
Lockheed Martin

SpaceX

ULA

USA

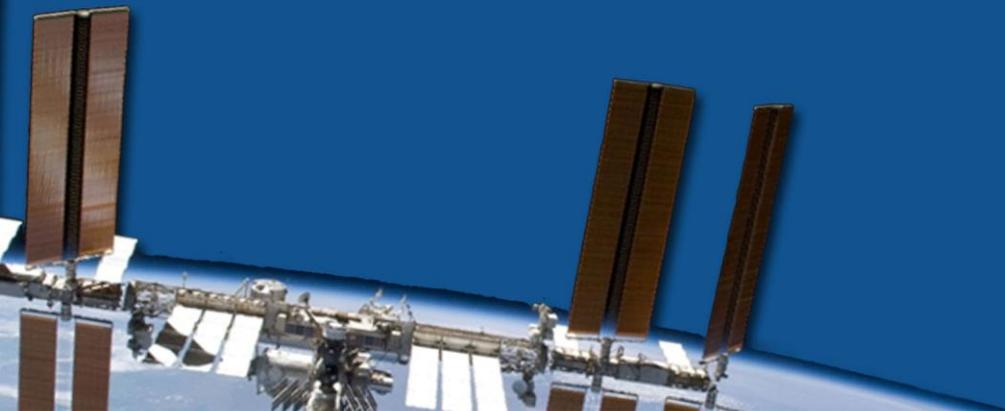
And others





# Workforce Challenges

- 61.5 engineers per 1,000 Space Coast residents
- Significant rise in unemployment in the Space Coast, outpacing the rate in the rest of the state, as well as the overall rate in the United States

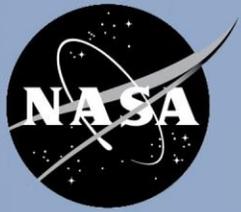




# Workforce Transition

- 1,079 jobs posted through Virtual Job Fairs
- 4,049 employees participated in Job Fairs
- 300 employees and spouses took part in Community Resource Showcase
- 3 Job Fairs scheduled in 2011

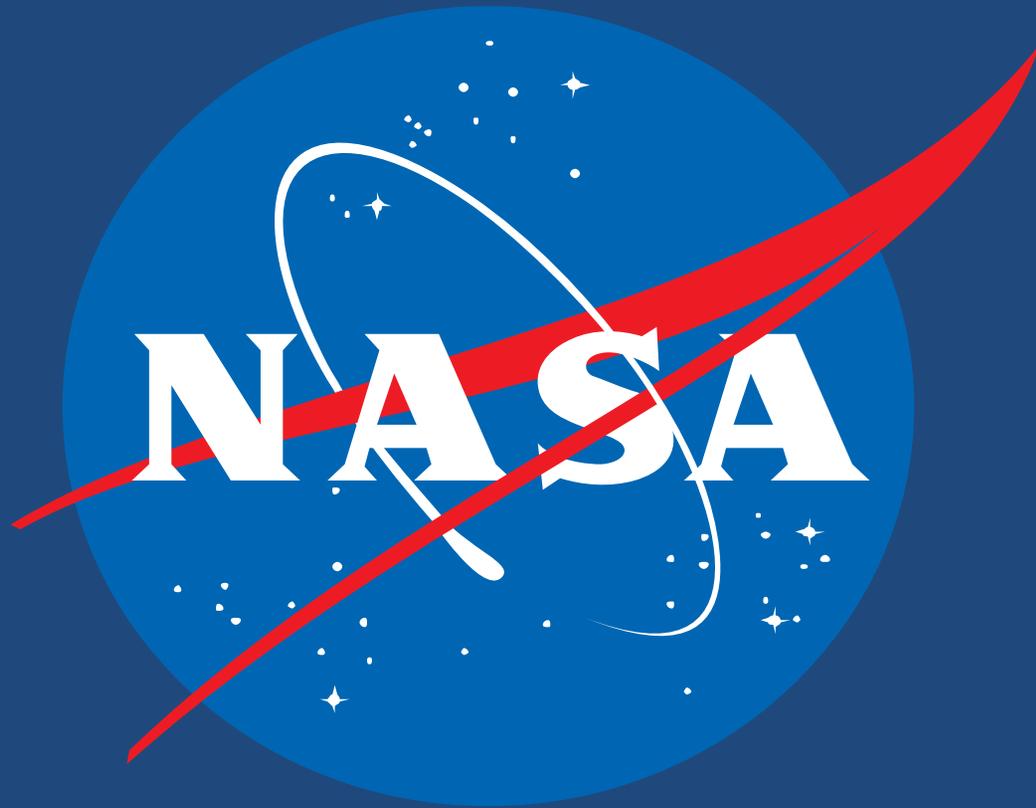




# The Future

- Kennedy Space Center will emerge from this change as the launch complex of the future, designed to serve the needs of the worldwide aerospace community.
- As a result of successful planning, we will move KSC to occupy a broader, bolder place within the worldwide space community, supporting a variety of private and public customers.
- The Center has the capabilities, facilities and highly skilled workforce to provide unique and significant skills to the space community, and has the capabilities to make accessing space less costly and more routine.
- NASA will continue to explore beyond low-Earth orbit, and that effort will continue to launch from KSC.







# 45TH SPACE WING

PATRICK AFB  
&  
CAPE CANAVERAL AFS  
FLORIDA

COLONEL ED RIVERA

THE OVERALL CLASSIFICATION OF THIS BRIEF IS UNCLASSIFIED//FOUO



# Overview

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- **Mission and Vision**
- **Organization**
- **Mission Partners**
- **Operations and Support**





# 45th Space Wing

## MISSION

**One Team...Delivering Assured Access  
Space Launch, Range and Combat  
Capabilities for the Nation**

## VISION

**The World's Premier Gateway to Space**



### **Manpower**

|                     |                     |
|---------------------|---------------------|
| <b>Military:</b>    | <b>950</b>          |
| <b>Civilians:</b>   | <b>1600</b>         |
| <b>Contractors:</b> | <b><u>7,000</u></b> |
| <b>Total:</b>       | <b>9,550</b>        |

|                               |                 |
|-------------------------------|-----------------|
| <b>Personnel:</b>             | <b>9,550</b>    |
| <b>Annual Payroll:</b>        | <b>\$252.1M</b> |
| <b>Indirect Jobs Created:</b> | <b>5,059</b>    |
| <b>Value of Jobs Created:</b> | <b>\$206.5M</b> |
| <b>Annual Expenditures:</b>   | <b>\$619.0M</b> |
| <b>Economic Impact:</b>       | <b>\$1.1B</b>   |



**Gen  
William L.  
Shelton  
AFSPC/CC**

**SIDC**

**SMC**

**AFNIC**

**AFFMA**

**14th Air Force**

**24th Air Force**

**21st Space Wing**  
Peterson AFB CO

**30th Space Wing**  
Vandenberg AFB CA

**45th Space Wing**  
Patrick AFB FL

**50th Space Wing**  
Schriever AFB CO

**460th Space Wing**  
Buckley AFB CO

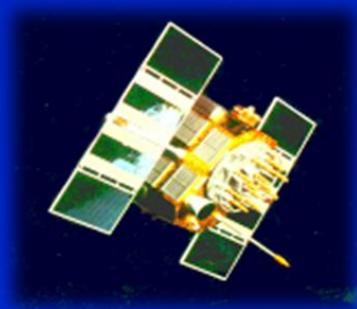
**Space Superiority**  
**Missile Warning and  
Defense**

**Space/Test Launch**  
**Range Ops**

**Space/Test Launch**  
**Range Ops**

**Satellite Ops**  
**Network Ops**

**Global Surveillance**  
**Tracking**





# Mission Partners

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## Major Tenants



920th Rescue Wing



AF Technical Applications Center



Naval Ordnance Test Unit



Defense Equal Opportunity Management Institute



National Aeronautics and Space Administration



Joint STARS Test Force



Department of State

## 33 Other Tenants

Typical Base Support - Commissary, Audit Agency, AFOSI

## 39 Geographically Separated Units

Base Services Support for Southeast USA & Caribbean



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# Emerging Missions

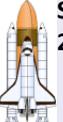
- **Customs and Border Protection**
  - Guardian—maritime reconnaissance
  - Drug interdiction and illegal immigration
  
- **National Airborne Operations Center**
  - Support 2-3 missions per month
  
- **Air Education and Training Command**
  - Afghanistan Air Advisor training
  - Partnership with Dept of State





# 45<sup>th</sup> Space Wing Ops Tempo CY 2011

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| LAUNCH PAD           | JAN | FEB  | MAR  | APR   | MAY | JUN  | JUL | AUG  | SEP  | OCT | NOV   | DEC |
|----------------------|-----|--|--|---|-----|--|-----|--|--|-----|---|-----|
| SLC-17A:<br>Delta II |     |  |  |   |     |  |     |  |  |     |   |     |
| SLC-17B:<br>Delta II |     |  |  |   |     |  |     |  |  GRAIL<br>08-Sep-11               |     |   |     |
| SLC-37B:<br>Delta IV |     |  |  NROL-27<br>11-Mar-11       |   |     |  GPS IIF-05<br>23-Jun-11          |     |  |  |     |  WGS-04<br>01-Dec-11 |     |
| SLC-40:<br>Falcon    |     |  |  |   |     |  NASA COTS<br>DEMO 2<br>30-Jun-11 |     |  |  NASA COTS<br>DEMO 3<br>06-Sep-11 |     |   |     |
| SLC-41:<br>Atlas V   |     |  |  OTV FLIGHT 2<br>04-Mar-11 |  SBIRS GEO-1<br>30-Apr-11 |     |  |     |  JUNO<br>05-Aug-11 |  |     |  MSL<br>25-Nov-11   |     |
| SLC-39A:<br>Shuttle  |     |  STS-133<br>24-Feb-11 |  |  STS-134<br>19-Apr-11    |     |  STS-135<br>28-Jun-11           |     |  |  |     |   |     |
| OTHER                |     |  |  |   |     |  |     |  |  |     |   |     |

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# CCAFS Unique Location

**Provides pro-grade orbit**

**Only location to support the launch of GPS**

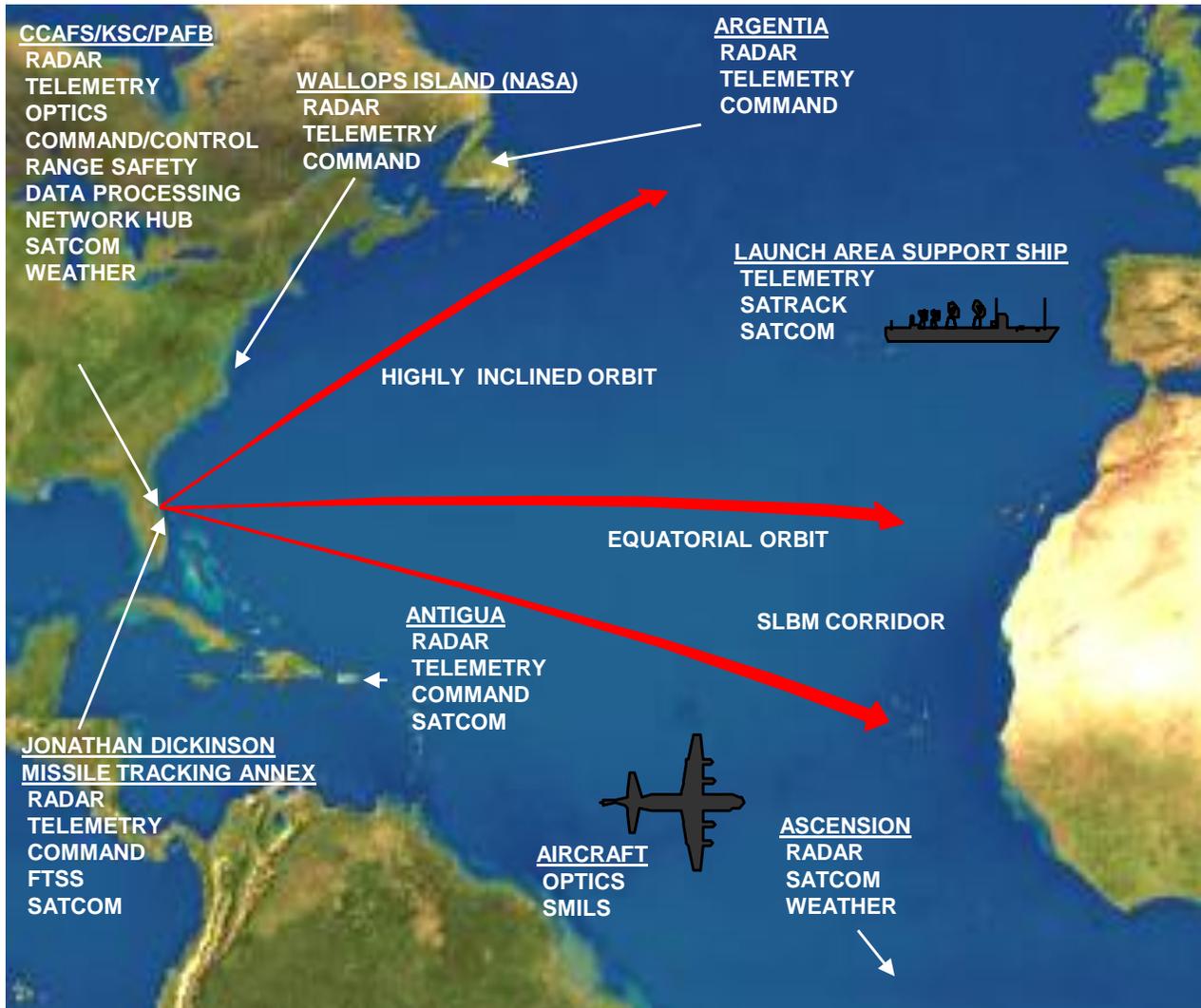
**Only location to support the launch of the Space Shuttle**

**Support: weather, navigation, reconnaissance, and communications satellites**





# The "Eastern Range"

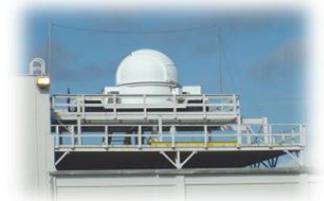


## Command Destruct



Prevents errant missiles from endangering persons or property adjacent to the Range.

## Optics



To include both mobile and fixed trackers, provides two-dimensional position-versus-time data.

## Radar



Provides metric quality vehicle position data to Range Safety for real time display and monitoring of vehicle flight.

## Telemetry



Monitors critical parameters such as vehicle attitude, rocket motor chamber pressures, and Command receiver automatic gain controls.

**Eastern Range = 15 Million Square Miles**



# Vehicles and Launch Pads



NASA Space Shuttle



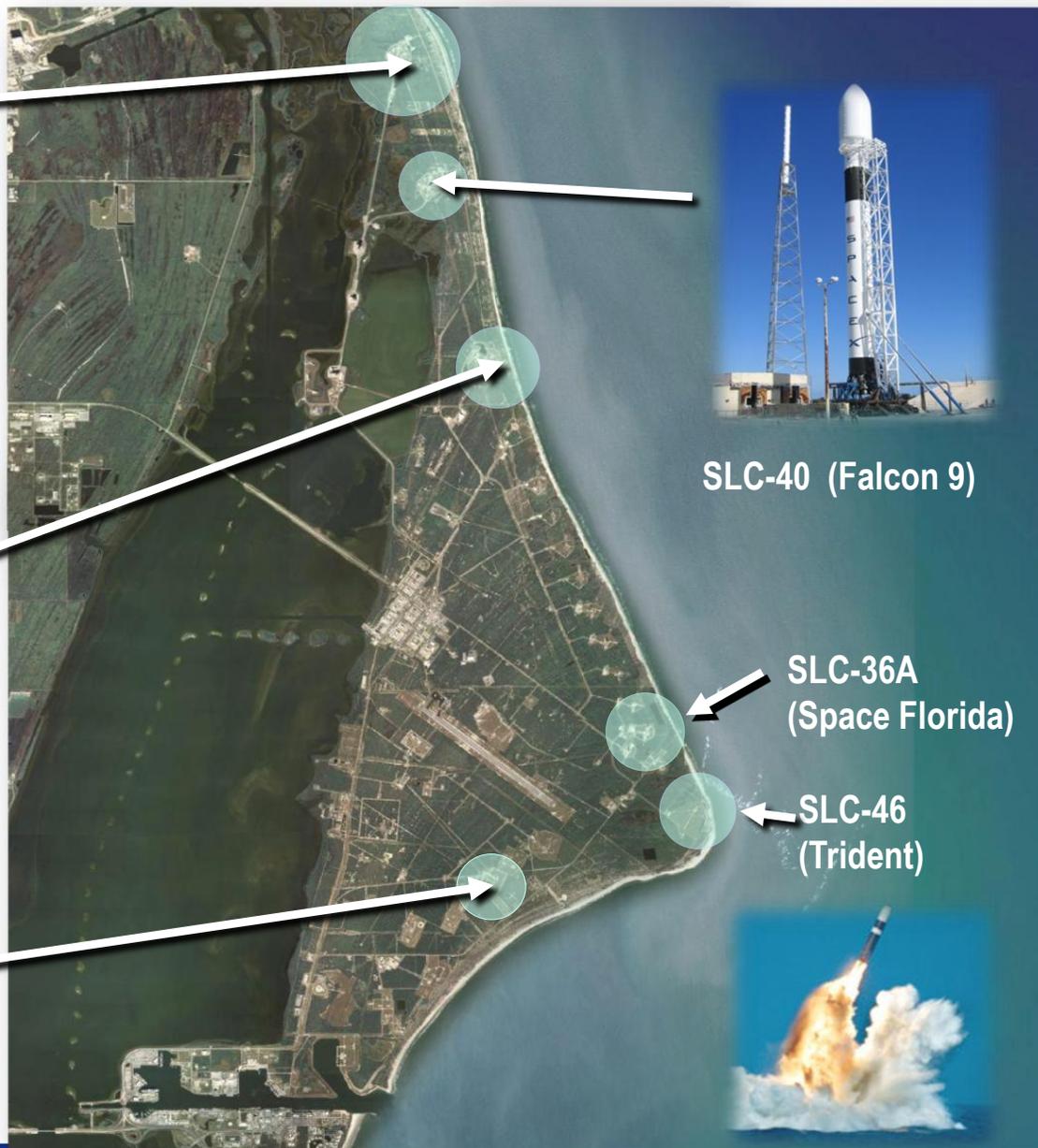
SLC-41 (Atlas V)



SLC-37 (Delta IV)



SLC-17 (Delta II)



SLC-40 (Falcon 9)

SLC-36A  
(Space Florida)

SLC-46  
(Trident)





# Keeping Mission Focus

## Expeditionary and Contingency Readiness



2008 - 2011

7 Bronze Stars

1 Purple Heart

17 Combat Action Medals

890 Members Deployed

## We are a Nation at War