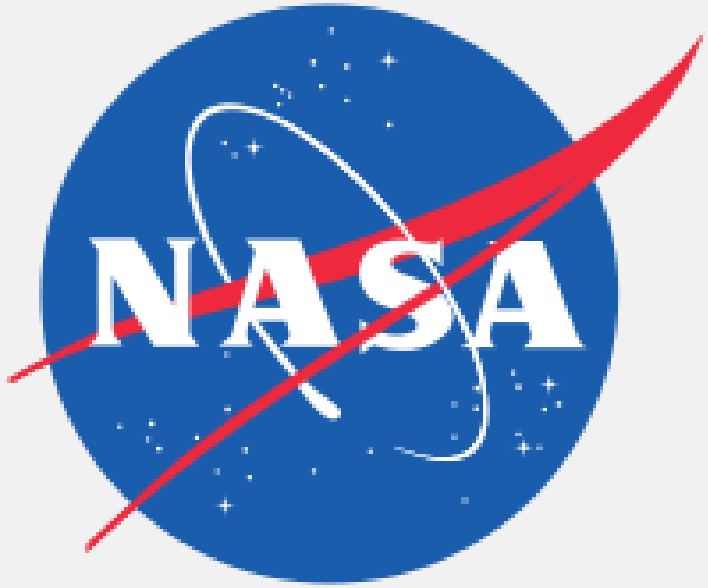


Partnering with NASA

An Overview

Gary Martin

Director, Partnerships

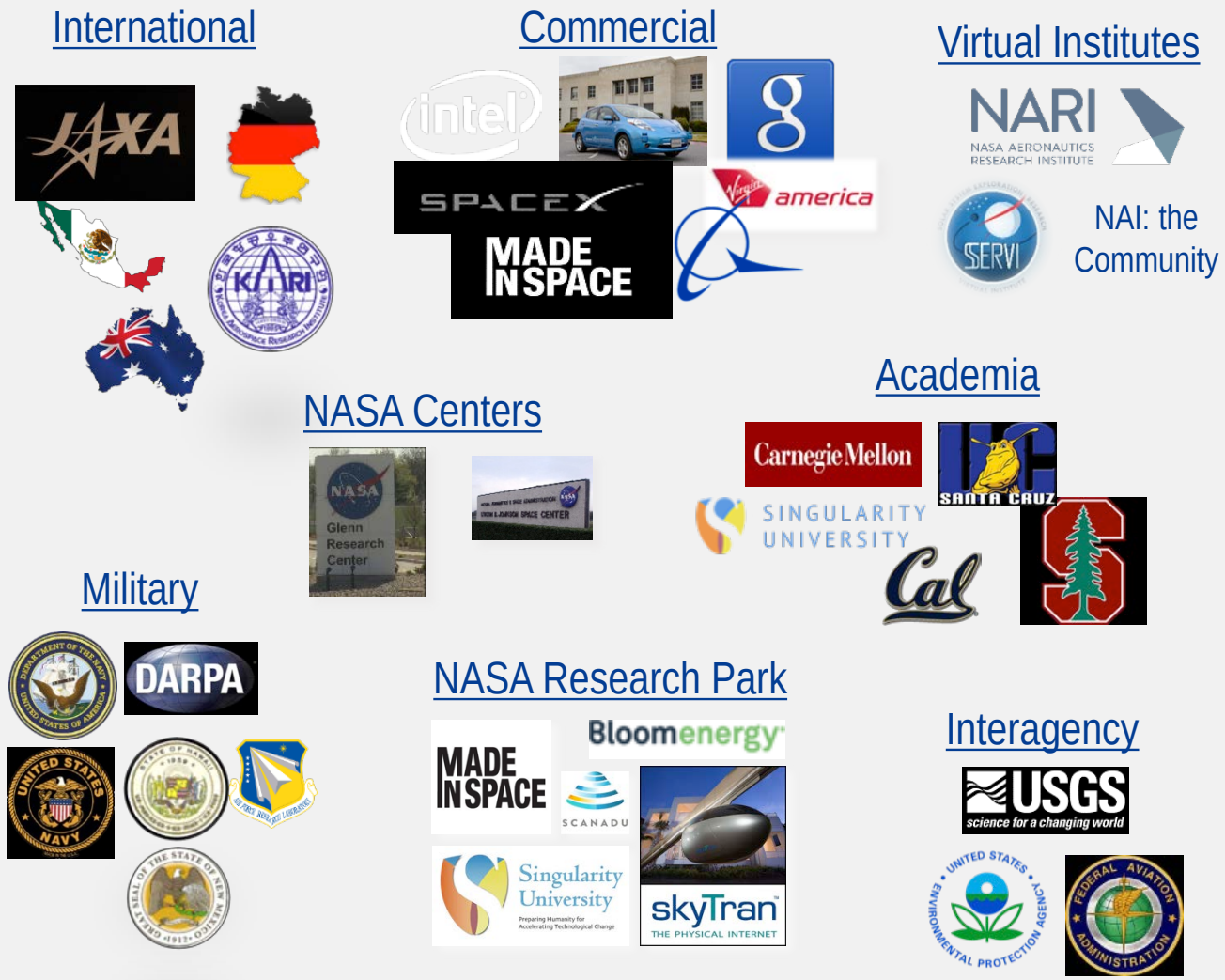
Partnerships at Ames

Partnering with external organizations to access capabilities under collaborative agreements

Entering into reimbursable agreements for partner access to NASA capabilities

Expanding overall landscape of space activity (maximizing public and private sector growth)

Spurring innovation



How does NASA partner?

Non-Reimbursable
Space Act Agreements

Agreement benefits both parties, with each funding their own participation.

Proposed activity must be relative to a NASA mission or program requirement.

The level of the other party's contribution is relatively equitable to NASA's contribution

Reimbursable
Space Act Agreements

Requires transfer of funds or other financial obligations from the other party to NASA.

No goods or services are provided to NASA.

NASA provides unique facilities, equipment, or expertise.

Technology Areas of Common Interest

NASA Missions

Planned human-machine interaction in natural and time delayed environment

Space & planetary navigation

Spacecraft autonomy

Cyber-security for “one-off” systems

Space environment

Limited ability to address/recover faults

Common Technologies

Autonomy
Advanced planning & scheduling algorithms, etc.

Human-Autonomy Teaming
Robotic supervision including human/robotic interactions, etc.

Networked Operations
Remote vehicle management, etc.

Prognostics and Diagnostics
Including state management, etc.

Sensor Technologies
Data processing / fusion methodologies, etc.

Verification & Validation
Methodologies & application experiences, etc.

Self-Driving Cars and UAVs

Partners’ Requirements

Diverse human-machine interaction in a structured environment

GPS & map-based navigation

Distributed and cloud-based autonomy

Cyber-security for consumer product

SBIR/STTR

The mission of the SBIR program is to support scientific excellence and technological innovation through the investment of Federal research funds in critical American priorities to build a strong national economy.

NASA's SBIR and STTR programs have awarded over $3.3B to research-intensive American small businesses to date.

Phase I: Concept

- Award Guideline: $125K
- Duration: 6 months (SBIR)
  12 months (STTR)

Phase II: Full Research, R&D to Prototype

- Award Guideline: $750K
- Duration: 24 months
  - Phase II-E → 1:1 Matching up to $375K (2016 Solicitation onwards)

Phase III: Commercialization/Infusion

- Non-SBIR/STTR funds
  - Contract from NASA program, other agency, prime contractor

NASA Centers and Installations

Occupants:
~1,130 civil servants
~2,100 contractors; 1,650 tenants
~1,344 summer students in 2015

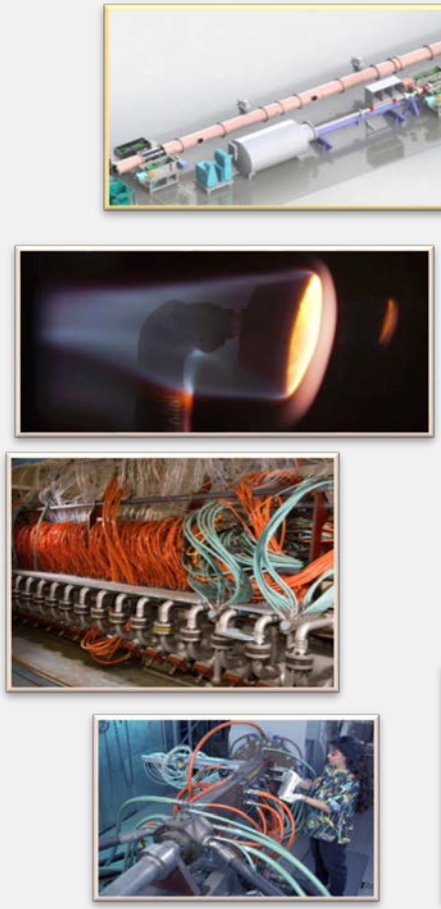
FY2016 Budget: ~$915M (including reimbursable/EUL)

Campus: ~1,900 acres (400 acres security perimeter); 5M building ft^2

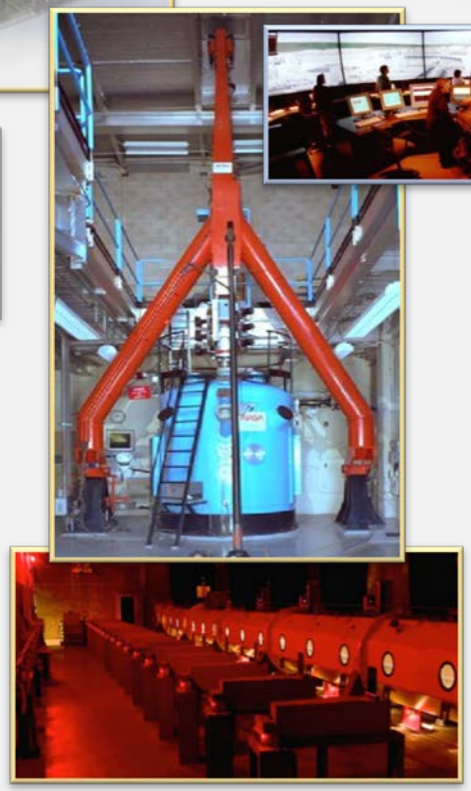
Airfield: ~9,000 and ~8,000 ft runways

Major Research Facilities

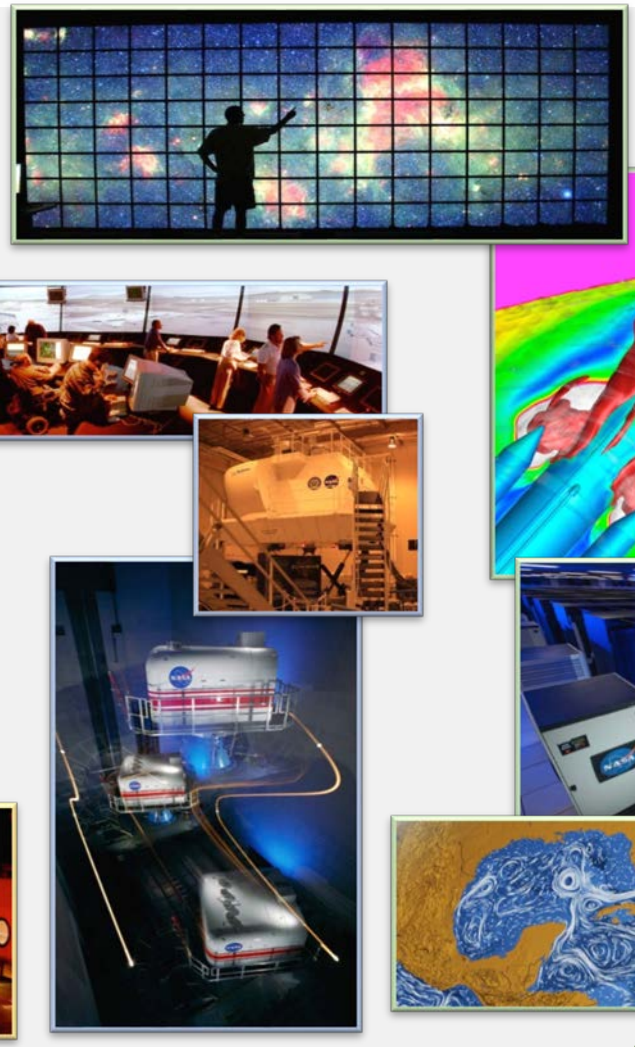
Wind Tunnels



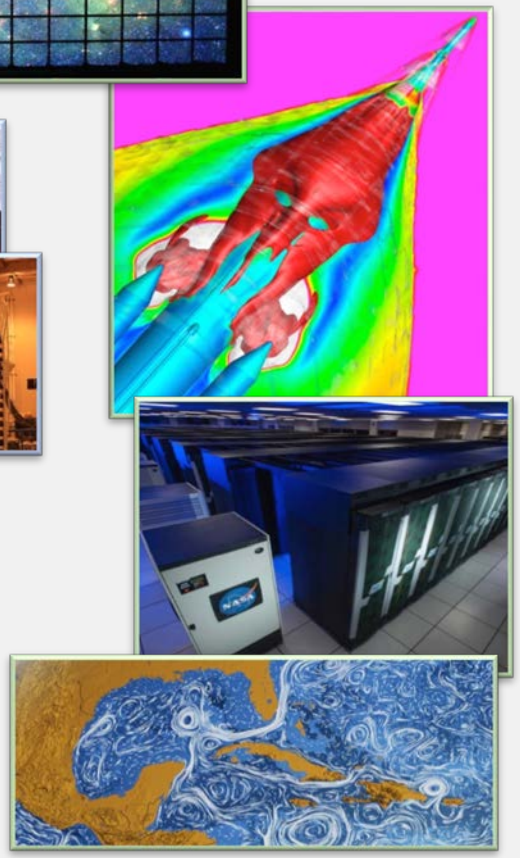
ARC Jet Complex



Range Complex

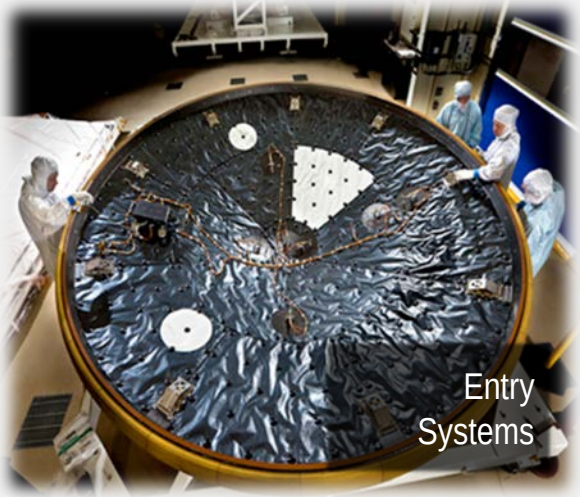


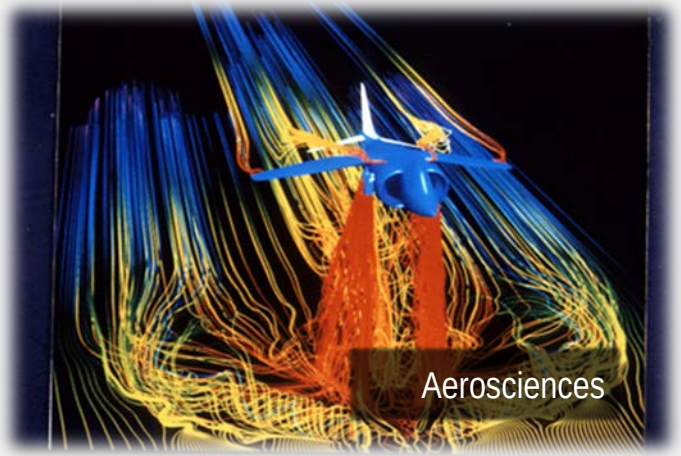
Simulators

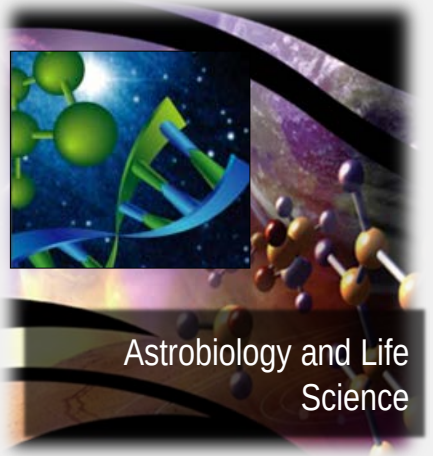


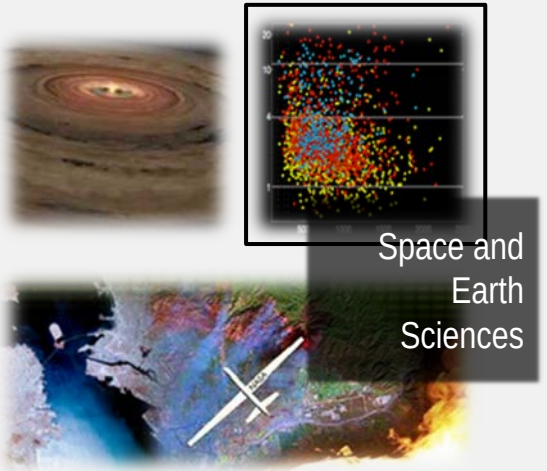
Advanced Supercomputing

Core Competencies at Ames Today







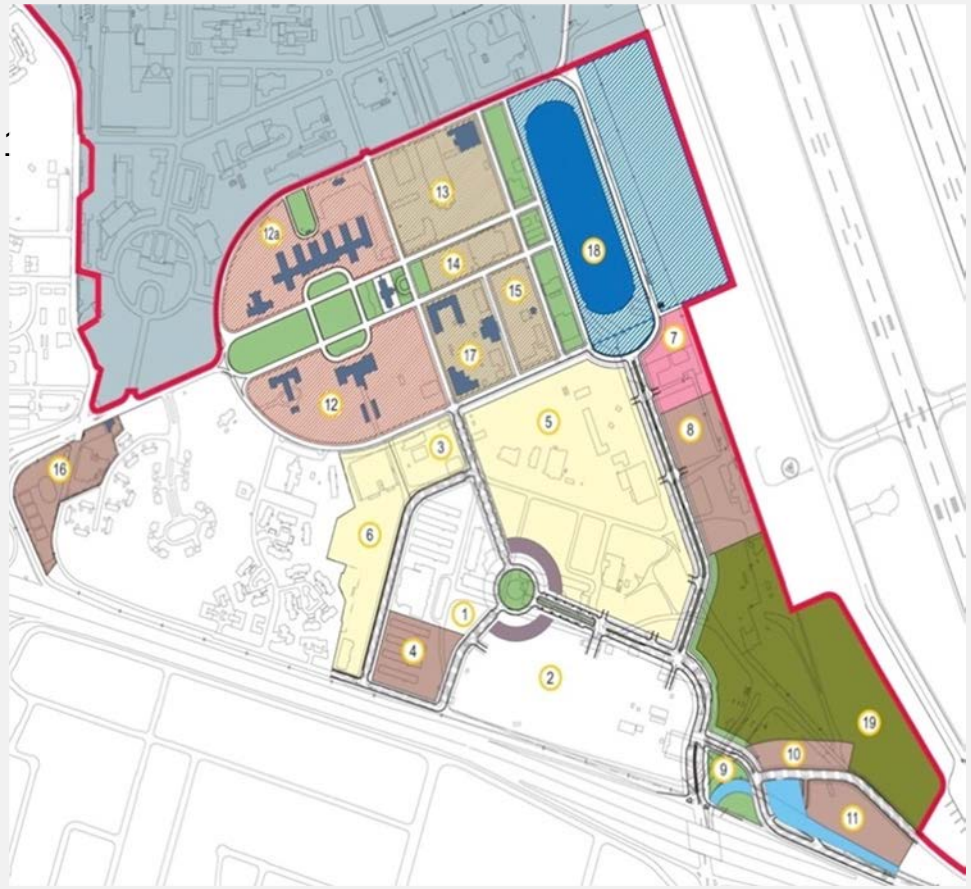


NASA Research Park

An established regional innovation cluster that facilitates commercialization by serving as a technology accelerator through vital and robust onsite collaborations.

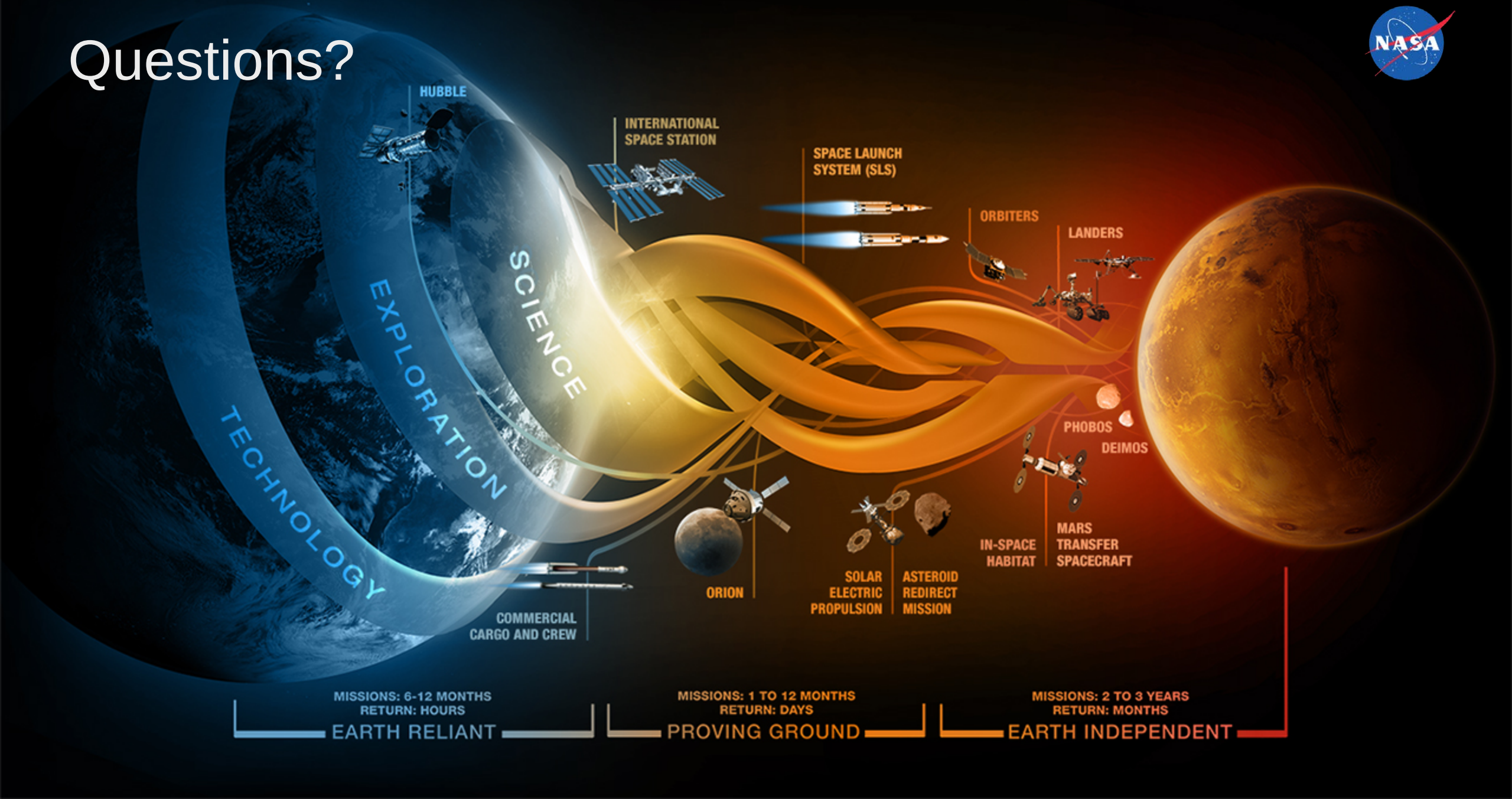
70+ Partners Today

- University Associates-Ground Lease
- PV “Google” (North East Section) Ground Lease
- M2MI Corporation-Bldg.19
- Carnegie Mellon University-Bldg. 23, 19
- Kentucky Science & Technology Corporation-Bldg.19
- Bloom Energy-Bldg. 543, 154 (Fuel Cell Research)
- UAV Collaborativer-Bldg.18
- Singularity Education Group-Bldg. 20
- BAER Institute-Bldg. 19
- Chandah Space Technologies-Bldg. 1
- IDM Technologies-Bldg. 19
- Logyx LLC-Bldg. 19
- Made in Space-Bldg. 153
- Neurovigil Inc.-Bldg. 19
- Rhombus Power-Bldg. 19
- Scanadu Inc.-Bldg. 20
- SkyTran-Bldg. 14
- Verdigris Technology-Bldg. 19
- ZeeAero-Bldg. 210
- LatIPnet-Bldg. 19
- Wyle Laboratories-Bldg. 19



NASA Centers and Installations

Questions?


HUBBLE
INTERNATIONAL SPACE STATION
SPACE LAUNCH SYSTEM (SLS)
ORBITERS
LANDERS
SCIENCE
EXPLORATION
TECHNOLOGY
PHOBOS
DEIMOS
COMMERCIAL CARGO AND CREW
ORION
SOLAR ELECTRIC PROPULSION
ASTEROID REDIRECT MISSION
IN-SPACE HABITAT
MARS TRANSFER SPACECRAFT
MISSIONS: 6-12 MONTHS
RETURN: HOURS
EARTH RELIANT
MISSIONS: 1 TO 12 MONTHS
RETURN: DAYS
PROVING GROUND
MISSIONS: 2 TO 3 YEARS
RETURN: MONTHS
EARTH INDEPENDENT