



Project and Engineering Support  
Services

Pre-Proposal Conference/Site Visit

NNA12374362R

NASA Ames Research Center





## Welcome and Introductions

**AnJennette Contreras-Rodriguez**

Contracting Officer

**David Korsmeyer**

Director of Engineering

**Kimberly Wagenbach**

Chief, Engineering Systems Division

**Dan Bufton**

Deputy Director, Programs/Projects

**Jim Connolly**

Chief, Project Management Division

**Mark Turner**

Senior Systems Engineer



## Safety and Concierge

In the event of an emergency, there are two exits on either side in the back. The nearest building exist is located slightly to the right as you exit this auditorium. There is one exit in front of the building.

Restrooms are located on the right hand side of the lobby, once the auditorium has been exited.

Ames Cafeteria is located at N235 on King Road

Barcelona Café is located in Bldg 3 on Severyns Avenue between North and South Akron Road



## How Groups for Tours were Established

All attendees were pre-assigned into one of the three Groups as indicated on name tags.

Group assignment is based on the order in which companies provided their attendee list to the Contracting Officer.

Attendees must take the tours at the time assigned for their Groups due to space restrictions at the facilities.

All Groups will see the same facilities.



## Purpose

The purpose of the pre-proposal conference is to provide industry an opportunity to obtain a better understanding of the Government's requirement and special facilities.



## Agenda

Time: 8:00 – 12:00 p.m.

Location: **Bldg N245, Auditorium**

- |                                |                                                             |
|--------------------------------|-------------------------------------------------------------|
| <b>7:00 a.m. - 8:00 a.m.</b>   | Visitor Center for badges                                   |
| <b>8:00 a.m. – 8:45 a.m.</b>   | Registration                                                |
| <b>8:45 a.m. – 9:15 a.m.</b>   | Opening Remarks and Procurement Overview                    |
| <b>9:20 a.m. – 9:30 a.m.</b>   | Code P                                                      |
| <b>9:30 a.m. – 9:50 a.m.</b>   | Code R                                                      |
| <b>10:00 a.m. – 11:30 a.m.</b> | Tours                                                       |
|                                | Engineering Evaluation Lab (EEL) & High bay/Clean room Tour |



## Agenda

All questions must be in writing. All questions will be posted with an official answer.

There are Question Forms at the sign-in table that may be used to write your questions through the day.

All questions related to the Draft RFP, the facility tours or this conference shall be submitted in writing no later than March 23, 2012 to:

[AnJennette.C.Rodriguez@nasa.gov](mailto:AnJennette.C.Rodriguez@nasa.gov)



## General Guidance

These slides are not to be interpreted as a comprehensive description of all requirements of the solicitation.

To the extent there are any inconsistencies between this briefing and the solicitation, the solicitation governs.

Nothing said here today should be construed as a revision unless subsequently confirmed in the Final RFP.



## General Guidance

Communications Blackout will be invoked following the issuance of the Final RFP.

All communications with industry concerning this acquisition will then be with the Contracting Officer only.

The “blackout” period for communication with industry will continue until contract award.



## Electronic Files

Link to PESS updates on NASA/ARC Business Opportunities Page:

<http://prod.nais.nasa.gov/cgi-bin/eps/sol.cgi?acqid=149909#Draft%20Document>

The solicitation and any documents related to NNA12374362R, including Interested Parties List, are available at the above website.

These charts, Pre-Solicitation Conference Attendance List, and questions will be posted to the above website.



## Freedom of Information Act (FOIA) Requests

Direct FOIA requests electronically to: Lubna M. Shirazi at:

[foia@arc.nasa.gov](mailto:foia@arc.nasa.gov)

No proprietary information can be disclosed

URL to NASA ARC FOIA Webpage and Electronic Reading Room:

<http://www.nasa.gov/centers/ames/business/foia/index.html>



## Award Without Discussions

FAR 52.215-1 and NFS 1815.209 allow for award without discussions.

The Government may award a contract based solely on the initial offers received, without discussion of such offers.

The Government reserves the right to hold discussions if Award on the basis of initial offers is determined not to be in the Government's best interest.



## Proposal Preparation

Proposals should be prepared in accordance with the Final RFP and written amendments, if any.

Ensure that all amendments are acknowledged with proposal submission.

Evaluation of proposals will be in accordance with the Final RFP.



## Planned Schedule

Draft RFP Released:	March 8, 2012
Draft RFP Comments Deadline:	March 23, 2012
Final RFP Release:	April 2012
Proposal Due  (45 Days after release of RFP):	May 2012
Selection:	July 2012
Date of Award:	August 2012



## PESS Procurement Information

### Small Business Set-Aside

NAICS Code: 541712- Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)

Exception (c) Space Vehicles and Guided Missiles, their Propulsion Units, their Propulsion Units Parts, and their Auxiliary Equipment and Parts

Size Standard: 1000

Contract Type: Cost Plus Fixed Fee (CPFF)  
Hybrid single award Core and IDIQ

Task Order type: Performance Based CPFF

Period of Performance: 5 years

Base: 1 Year

Option 1: 1 Year

Option 2: 1 Year

Option 3: 1 Year

Option 4: 1 Year



## WEIGHTING AND SCORING

Of the evaluation factors, Mission Suitability is significantly more important than Past Performance, and Past Performance is approximately equal to Cost. Mission Suitability and Past Performance, when combined, are significantly more important than Cost.

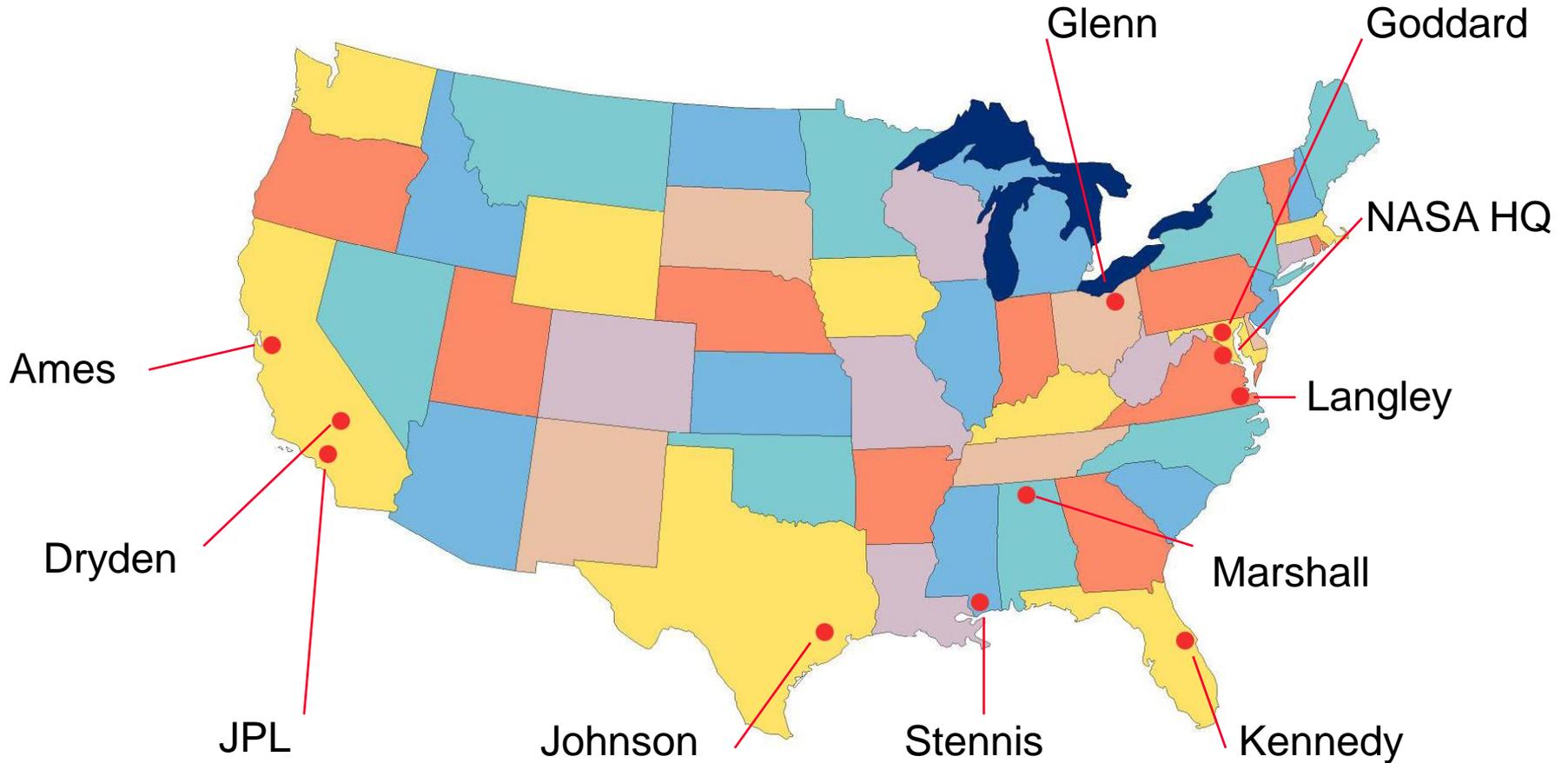
Mission Suitability subfactors will be assigned adjectival ratings and numerical scores in accordance with the numerical system established in the Final RFP. The overall Mission Suitability Factor will only receive a numerical score.

The other factors (i.e., Past Performance and Cost/Price) are not similarly weighted or scored. Past Performance is assigned a level of confidence rating.

A cost realism analysis will be performed to assess the reasonableness and realism of the proposed costs. It is not numerically scored.



# NASA Centers



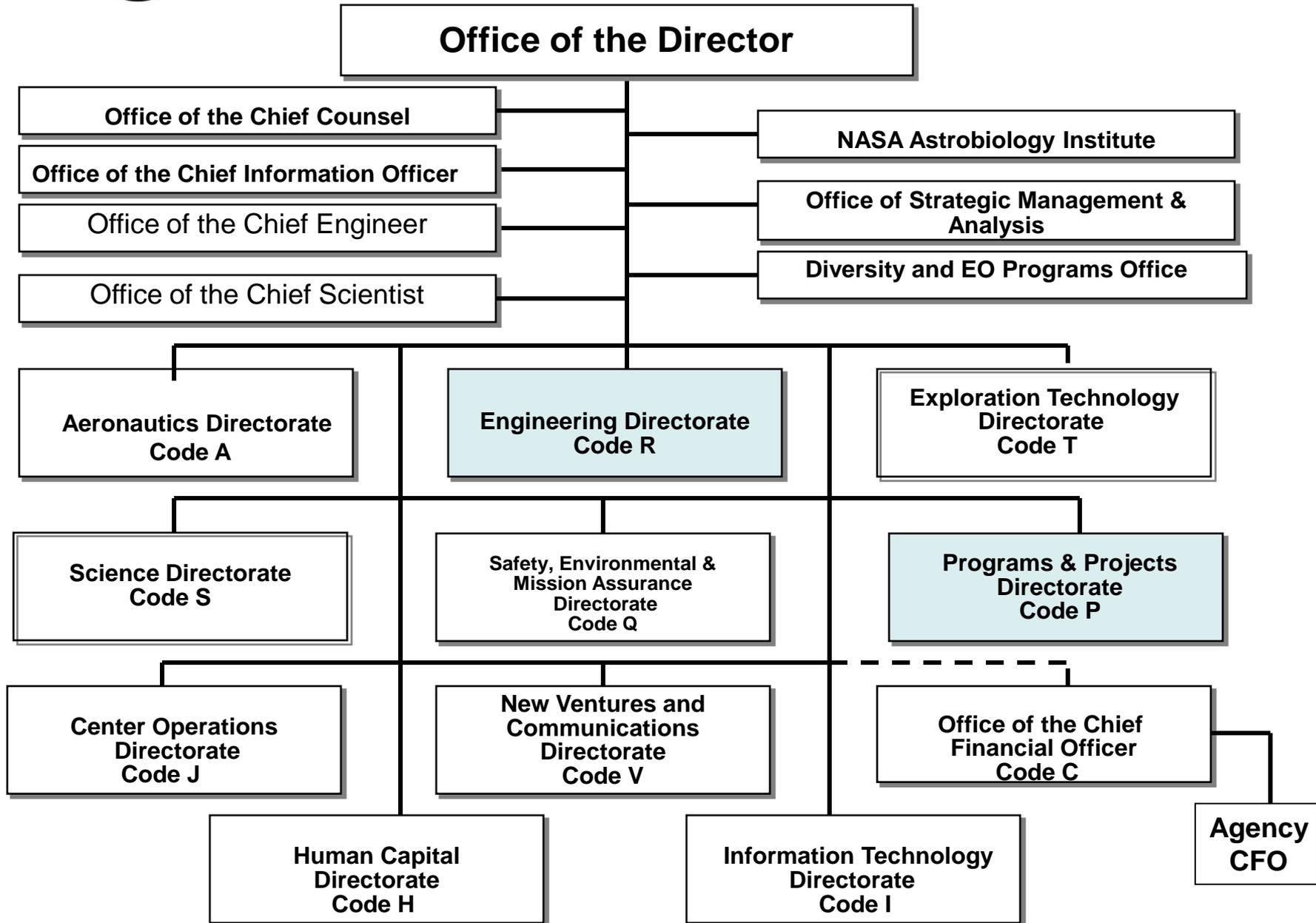


# Ames Research Center

*in Silicon Valley*

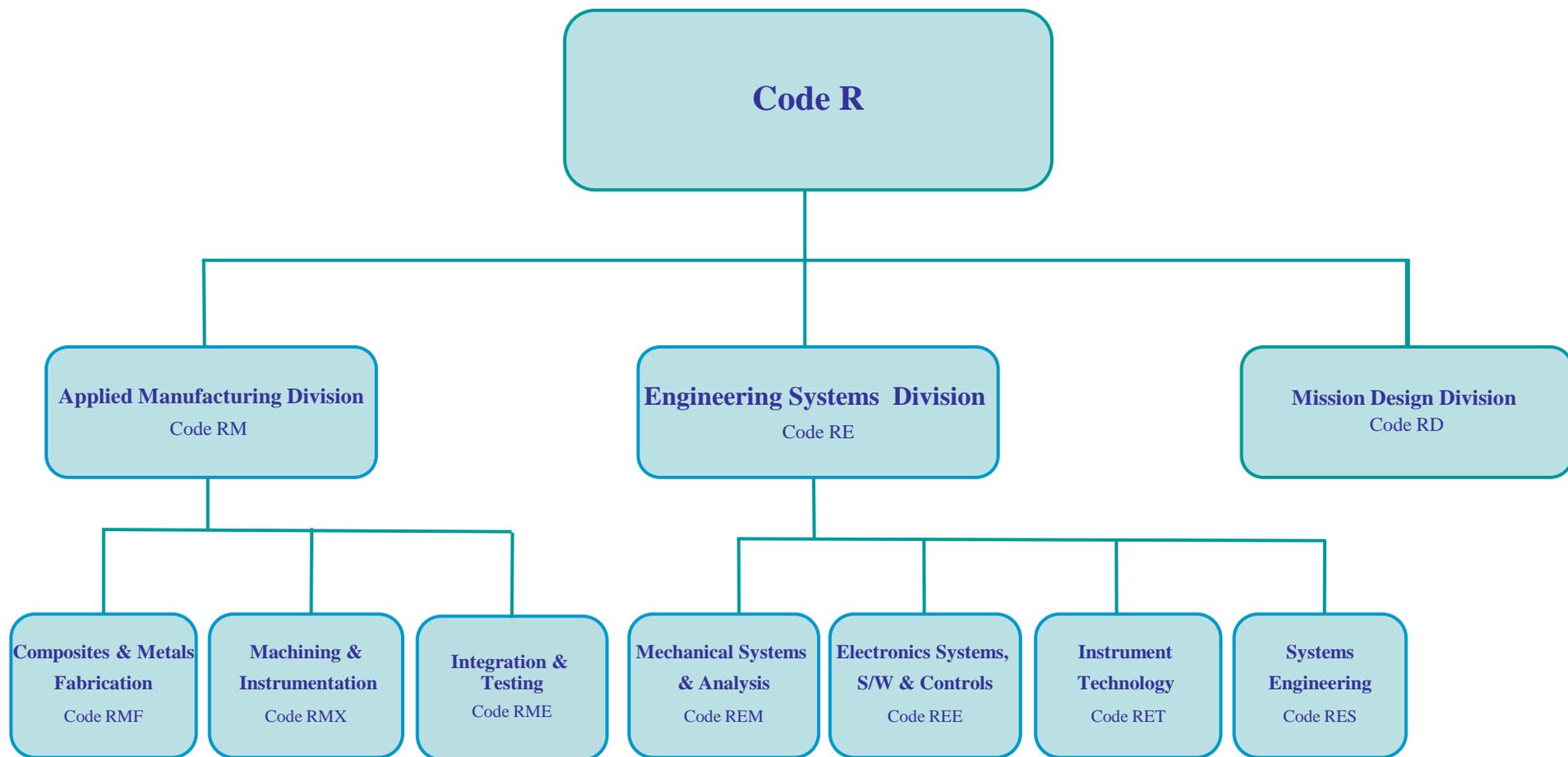


**Ames Research Center**



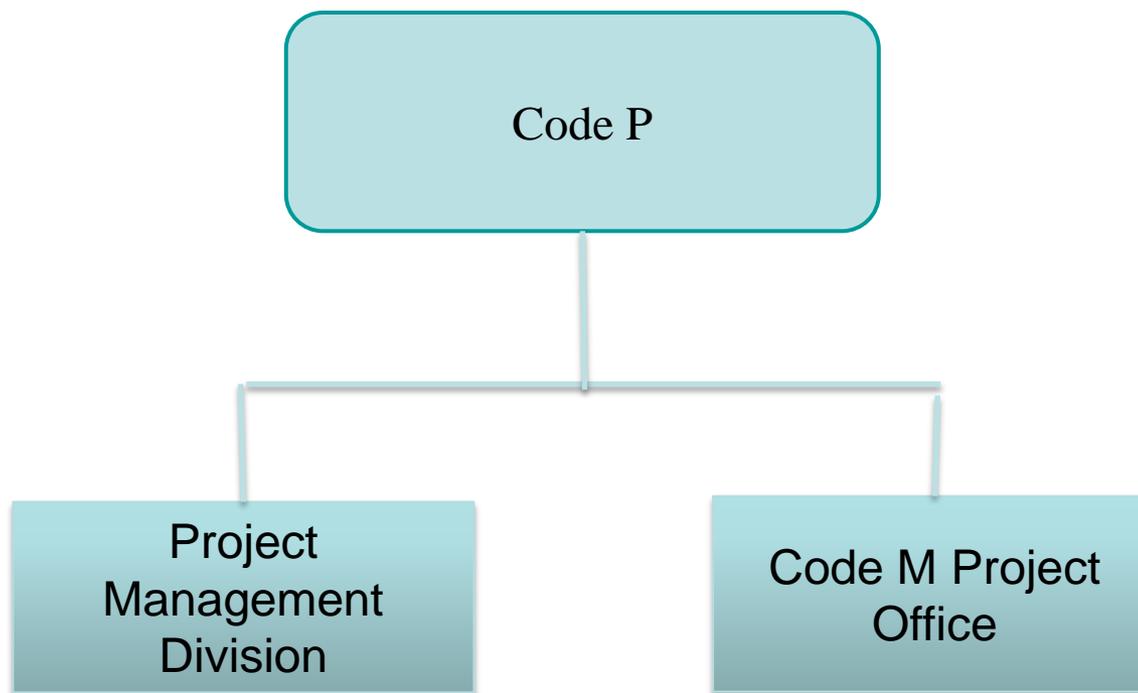


## *Engineering Directorate*





# *Programs & Projects Directorate*





## Major Projects Managed by Code P

Kepler—Detection of earth-size planets in habitable zones

Launched in March 2009, base mission ends in Nov. 2012

Extended mission proposed

LADEE—Lunar Atmosphere & Dust Environment Explorer

Launch: July 2013

IRIS—Interface Region Imaging Spectrograph

Managed by Lockheed Martin. Ames managing Mission

Operations and Ground Data Systems. Launch: Dec. 2012

SOFIA---Stratospheric Observatory for Infrared Astronomy

Program managed by Dryden, Science Office managed by

Ames. Program life through 2030



## Typical Project Support Required

- Compliance with NPR 7120.5 for flight projects
- Support for all types of project reviews and procedure development
- Support for development of Project Plans and related documents
- Technical writing for engineering papers, manuals, reports and presentation packages
- Project Scheduling
- Earned Value Management
- Cost estimating for spaceflight systems
- Develop, use and maintain project management information tools
- Provide configuration management in accordance with NASA and Ames Management System requirements
- Provide logistics and other project support as needed



## Flight Processing Center (FPC)

- Schedule, maintain and provide day-to-day operations support for the FPC
- Support cleanliness & contamination control training and enforcement for FPC clean room facilities
- Maintain cleanroom environmental monitoring instruments & inventory of cleanroom garments & supplies
- Support spacecraft and project cleanliness operations & inspections
- Support development of contamination control plans, procedures and reports
- Coordinate equipment and material usage within the FPC, maintain bonded stores & provide shipping/receiving capability
- Support development of spacecraft and project integration and test plans
- Provide liaison support between project teams, technical support organizations and FPC management



## Engineering Evaluation Lab

Contractor support required to staff Engineering Evaluation Lab



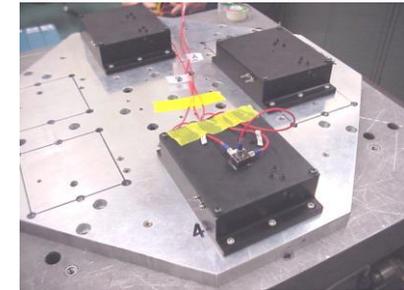
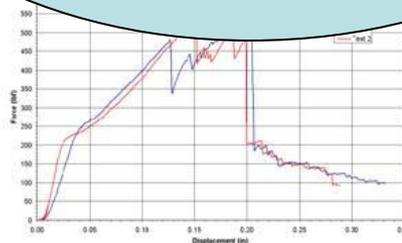
Nano Chemical Sensor Vacuum Testing



LCROSS Testing



**Engineering Evaluation Lab**  
 Performs Test and Verification for Ground-based, Airborne, & Spaceflight Payloads, Prototypes, Development Units, Instruments, Subsystems, Components, & Coupons. Testing includes vibration, thermal cycling, fatigue, high G centrifuge, shock/impact, loads/strain, and deflection measurements. Workforce includes experienced test technicians, material and design engineers from the Engineering Systems Division, and fabrication from the Manufacturing Division



Nano Chemical Sensor Vibration Testing



SOFIA Door Design, Fab., Ass'y & Test



Honeycomb Composite Load Test



## Engineering Evaluation Lab & Clean Room Facility



### Engineering Evaluation Laboratory (EEL)

- Thermal Vacuum Chamber (below)
- Vibration Table
- Thermal Chambers
- Impact
- Sensor Calibration
- Related test facilities

### Integration High Bay/Clean Room

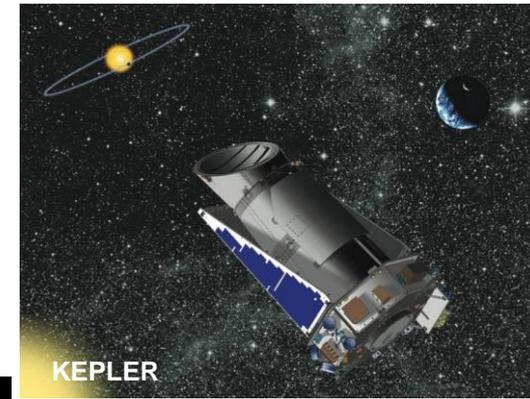
- 100K Facility
- 10K Clean Room
- Ground Fixtures
- Flight Hardware Assembly/Test
- Offline Labs



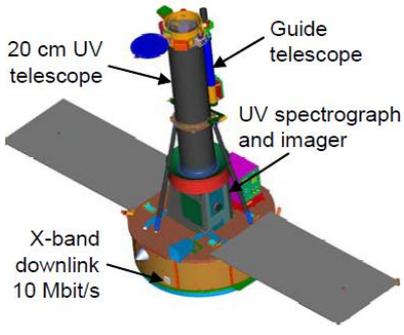


## Engineering Directorate, Code R

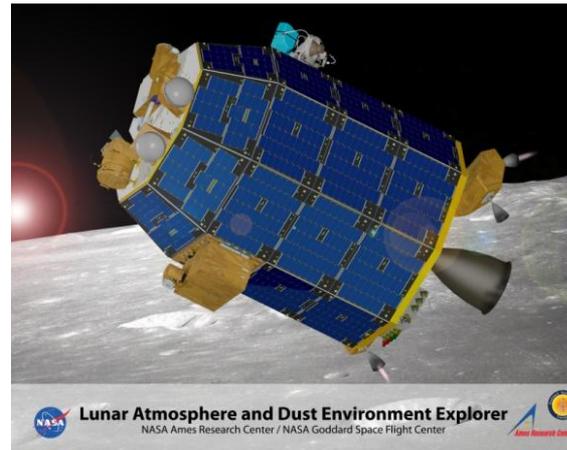
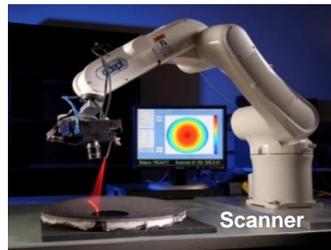
Experienced & Agile Staff Providing Innovative Solutions, Infrastructure and Leadership Capable of Successfully Executing Unique Projects within Customer Performance, Schedule, Budget, and Safety & Mission Assurance Requirements



KEPLER



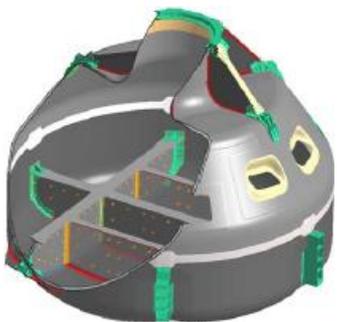
IRIS



Lunar Atmosphere and Dust Environment Explorer  
NASA Ames Research Center / NASA Goddard Space Flight Center



SOFIA



Composite Crew Module



KSC ground Operations Support CT



Ares I Model



- **Contractor support required for Mission Design & Analysis**

- Mission Design & Analysis

- Engineering Design & Analysis

- Mechanical
- Structural
- Fracture mechanics
- Electrical
- Electronics/Avionics
- Controls
- Software
- Optics
- IR detectors
- Cryogenics

- Systems Engineering

- Fabrication

- Precision Machining
- Spacecraft Fabrication
- Inspection

- Testing

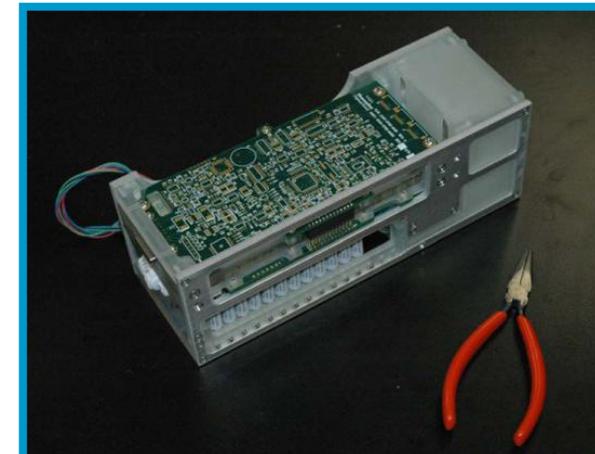
- Environmental
- Structural static & fatigue



LADEE  
Lunar Atmosphere &  
Dust Environment Explorer



26AA Wind Tunnel Model

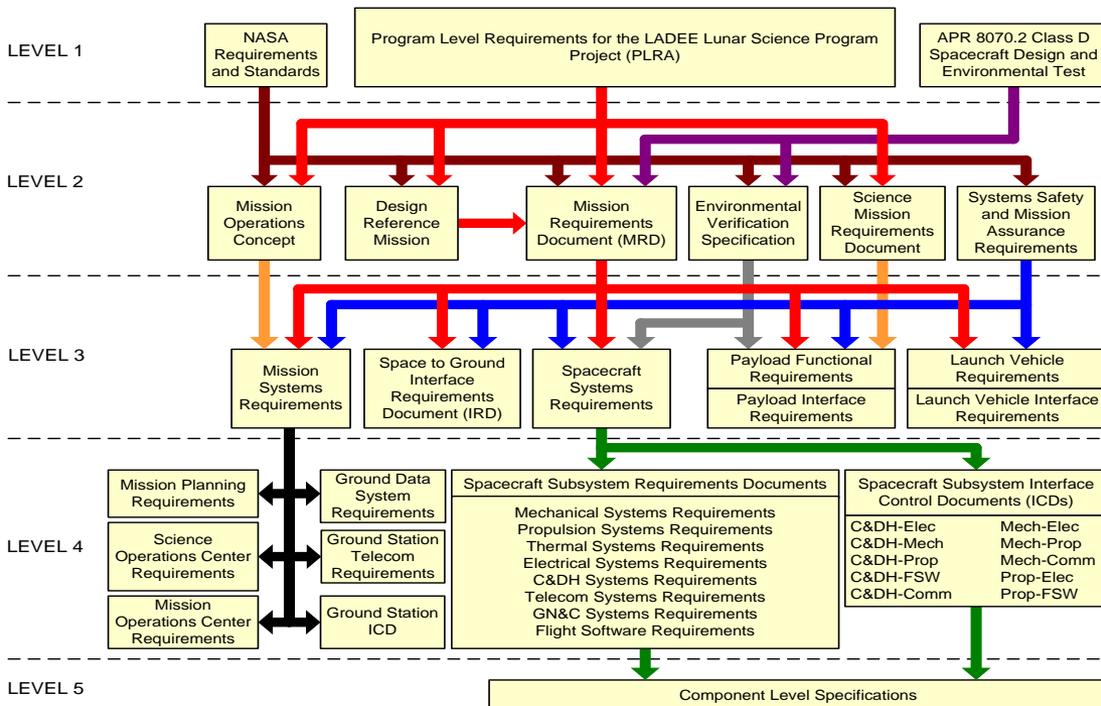
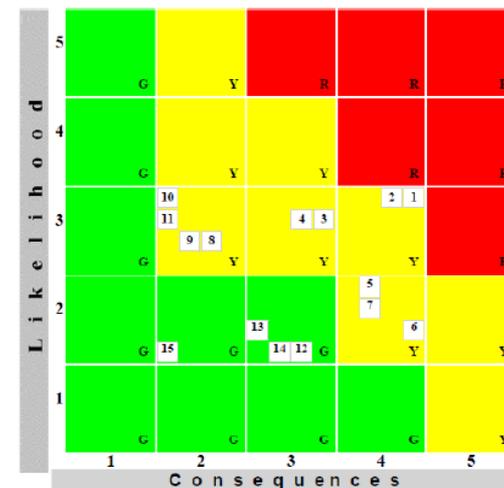
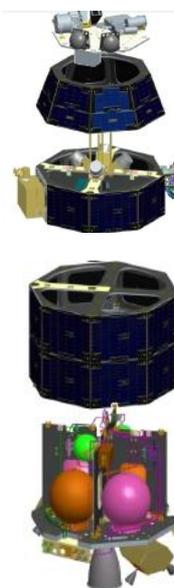


PharmaSAT Nano-Satellite



## Systems Engineering support required

- Requirements Development and Management
- Risk Identification and Mitigation
- Margin Management
- Interface Definition and Control
- Integration and Testing
- Verification and Validation



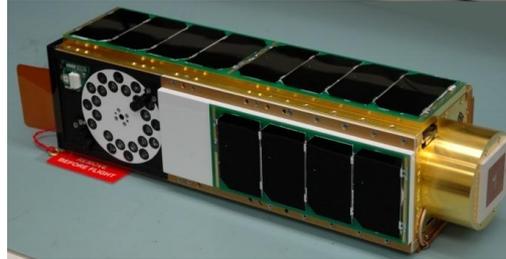
	SRR Phase A	PDR Phase B	CDR Phase C	TRR Phase D
<b>Mass</b>	20%	20%	15%	5%
<b>Propellant</b>	Meet $\Delta V$ & $\Delta H$ requirements for allocated S/C mass, assuming reasonable worst-case (i.e. $3\sigma$ ) LV dispersions and trajectory errors			
<b>Power</b>	20%	20%	15%	10%
<b>Power Switches</b>	-	25%	-	-
<b>T&amp;C H/W Data Channels</b>	15%	15%	10%	0%
<b>RF Link</b>	3 dB	3 dB	3 dB	3 dB
<b>Information System</b>	60%	60%	50%	20%



**Contractor Support for Mechanical Systems and Analysis required for projects like these:**

## Capabilities needed:

- Mechanical Design
- Structural Design & Analysis
- Mechanism Design
- Fracture Mechanics
- Thermal Design & Analysis



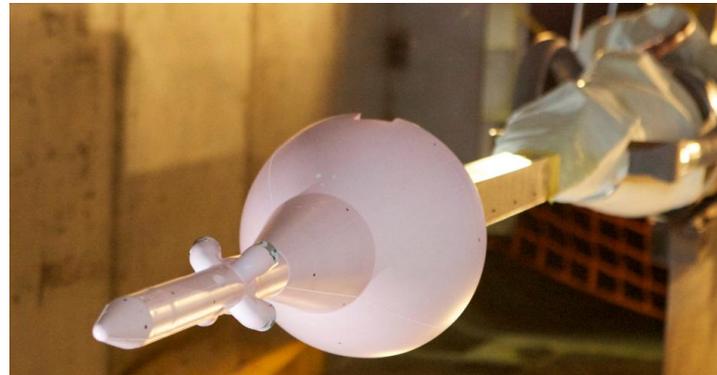
O-OREOS



80-AS CEV Hot Plume

## Tools:

- Pro-Engineer (Pro-E)
- NASTRAN/PATRAN
- LS-Dyna
- Abacus
- STAAD
- Thermal Desktop
- MatLab/Mathworks
- 3-D Printer



26-AA CEV Launch Abort Separation Model



Ares I Model



Axial Curved Element Structural Beam



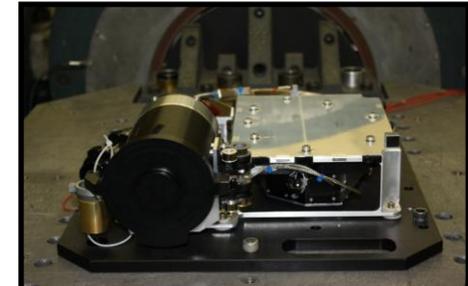
## Contractor support required for Electronic Systems, Software & Controls

### Capabilities:

- Instrumentation
- Power Systems Design
- Instrumentation
- Command & Data Handling
- Data Systems
- Communications



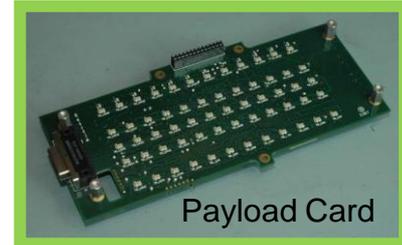
LCROSS  
Total Luminescence  
Photometer



UVS Instrument

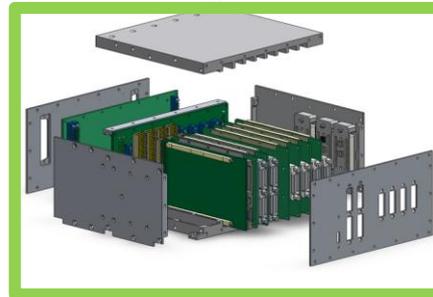
### Tools:

- Circuit Simulation: Cadence OrCAD, P-SPICE
- Systems Analysis: STK
- SW Development: C, C++, Basic, Fortran, HTML, Java
- Circuit Design: OrCAD
- PCB Layout: Cadence OrCAD

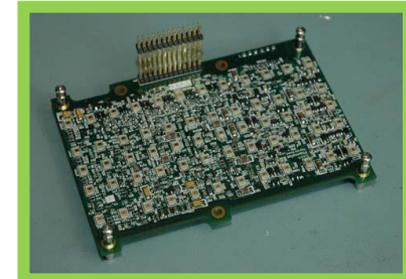


Payload Card

PharmaSAT



LADEE Integrated  
Avionics Unit



Detector Card



## Instrument Technology

Contractor required to provide expertise in infrared detectors radiation-hard cryogenics electronics, cryocoolers for space applications, 3D scanner for TPS inspection, and optics

- **Applications -**
- Infrared detector testing and characterization
- Cryogenic system design and component testing
- Software Design and Development
- Microcontroller assembly
- Optics
- **Current Projects -**
- Mold Impression Laser Tool - 3D Scanner (MILT)
- Cryocoolers
- Infrared Detectors
  
- **Tools -**
- LabView
- VHDL
- Visual Basic
- Visual C++
- Visual J++
- C



**MILT 3D Scanner**



**Pulse Tube Cryocooler**



## Mission Design Center

The Mission Design Center develops software tools for mission design analysis for spacecraft project proposal development & requires contractor support to develop projects like these:

