

the **RESULTS**



For more information contact:  
 Engineering Directorate  
 Phone: 757.864.6014  
 Fax: 757.864.7798  
 M/S 433

National Aeronautics and Space Administration  
**Langley Research Center**  
 100 NASA Road  
 Hampton, VA 23681  
[www.nasa.gov/centers/langley](http://www.nasa.gov/centers/langley)

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

National Aeronautics and  
 Space Administration



Langley Research Center  
**Engineering Directorate**

*“Dedicated people providing innovative solutions to aerospace and scientific challenges.”*

the **VISION**

Our advanced system engineering approaches, capabilities and technologies enable the Agency to meet national aerospace and science needs.

We are recognized as the “provider of choice” for delivering high quality engineering products from concept to flight systems.



# Advanced Concepts Development



Blended wing body aircraft model used for wind tunnel testing

## Atmospheric Flight and Entry Systems

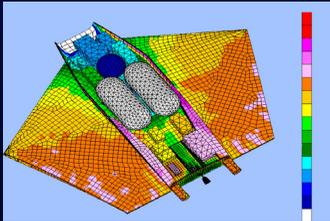
*"An integrated capability to deliver payloads through planetary atmosphere."*

Technicians ready materials for a high temperature wind tunnel test. These test followed Project Fire's exploration of intense heat of atmospheric reentry and its effects on would-be spacecraft material.



## Aeronautics Systems Engineering

*"Leading the developments of hardware, sensors, and measurement systems for aerospace concepts."*



Mars airplane thermal model

## Structural and Thermal Systems

*"Integrated system-level structural and thermal analysis."*

## Mechanical Systems

*"Design of complex aero and space flight systems."*

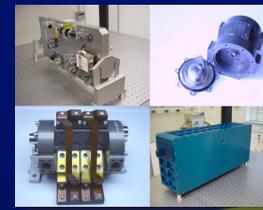
Planetary risk reduction (exploration): aircraft extraction mechanism



## Laser Remote Sensing

*"The one stop shop for remote sensing laser development."*

2-Micron pulsed high-energy laser development



# Advanced Tech Development



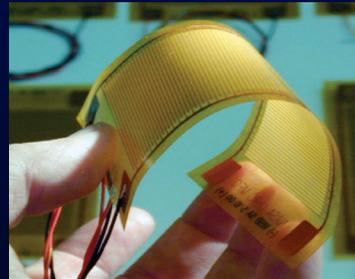
Orion flight test article entering hangar 1244

## Metals Application Technology

*"Providing fabrication solutions to unique aerospace research and development requirements."*

## Fabrication Technology Development

*"Fabricating complex test articles for aerospace research and development."*



Electronics material development

# Technology Demonstrations



Different materials were tested for the reflective elements in support of the STORRM project.

## Remote Sensing Flight Systems

*"Taking instruments from the lab to space."*



EVA IR camera developed to locate damage on the exterior of the Space Shuttle using infrared technology.

# Flight Systems Development



## Electronic Systems

*"Concept to flight avionics and instrumentation."*

Airplanes are test beds for increasingly capable autopilots that could well be a large part of aviation's future.

## Systems Integration and Testing

*"Providing testing solutions to unique aerospace hardware."*



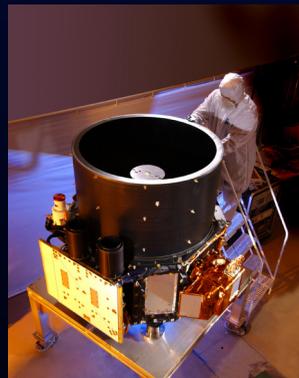
Semi-Anechoic EMC test complex



X-43 hypersonic experimental vehicle

## Systems Engineering and Integration

*"Engineering of Systems: Taking aerospace projects from concept to realization."*



The early stages of CALIPSO's construction

## Flight Software Systems

*"Expertise in software systems engineering."*



NAST-I instrument performs atmospheric sounding

