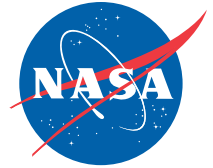


# NASA Dryden Aerospace Simulation Capability

## Simulation Fact Sheet Dryden Flight Research Center



### PURPOSE:

Provides research teams the means to conduct efficient, thorough testing of advanced, highly integrated aerospace vehicles.

### APPLICATIONS:

- High-fidelity 6-DOF real-time and desktop batch simulations
- Pilot-in-the-loop simulation
- Hardware-in-the-loop simulation
- Vehicle-in-the-loop simulation
- Closed-loop vehicle systems verification and validation testing
- Combined Systems Testing
- Mission Control Room training, mission planning, and post-mission data analysis

### RESOURCES:

- Scalable and flexible simulation package to support conceptual design to flight
- Common, reusable technology for software and hardware to support multiple, varying projects
- Dedicated or configurable cockpits
- Configurable hardware interface unit for vehicle systems integration testing

### CONTACT:

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661-276-2044  
jeanette.h.le@nasa.gov

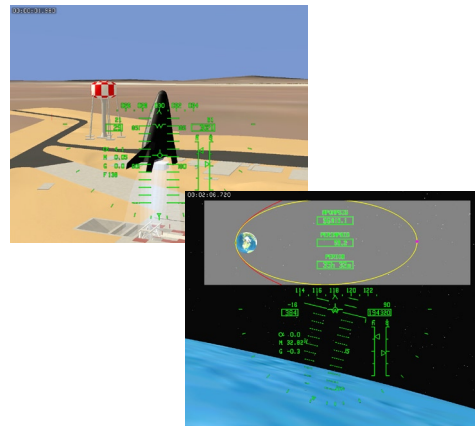
The NASA Dryden simulation capabilities support the most advanced aeronautical and space-based research now and in the future, through all phases of vehicle design, development, systems integration, verification, validation, and flight test.

### *We place the simulation capabilities in the hands of the customer*

- The same software operates on a desktop as well as integrated laboratory environment
- All simulations are operable by one person
- Users have access to all the source code



### *Configurable Simulations*



- Simulations are scalable to varying levels of complexity and stage of development
- Can support systems integration and evaluations of multiple design concepts
- Quick study of mission trajectories, flight management, and performance characteristics
- Mission planning and training to reduce or mitigate risks

### *Integrated Vehicle Testing*

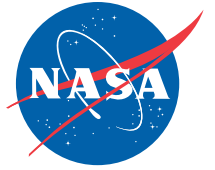
- Enables systems integration, verification, and validation testing of vehicle hardware and software
- Facilitates Failure Modes and Effects Testing (FMET)
- Test flight hardware and software as subsystems and components become available



*To Fly What Others Only Imagine*  
[www.nasa.gov/centers/dryden](http://www.nasa.gov/centers/dryden)

# NASA Dryden Walter C. Williams Research Aircraft Integration Facility (RAIF)

## RAIF Fact Sheet Dryden Flight Research Center



### TEST BAYS:

- Six vehicle test bays in three physical areas
- Support both classified and proprietary projects simultaneously
- Interface to simulation laboratories and Mission Control Rooms
- Provide full vehicle system support infrastructure

### SIMULATION LABS:

- Up to 11 simulation laboratories, each configurable to various security levels
- Labs overlook the test bays with data, video and audio connectivity

### ACCOMMODATIONS:

- Co-location of project and facility management, vehicle maintenance, and engineering personnel
- Conference rooms
- 30,000 ft<sup>2</sup> office space

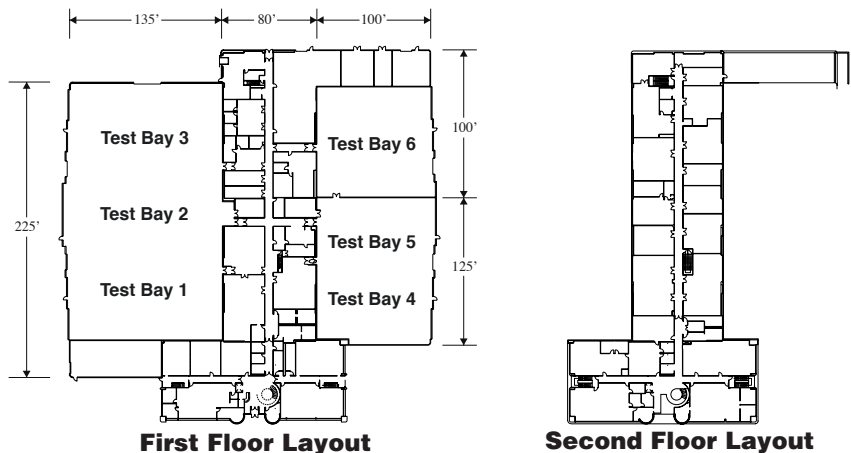
### PAST PROJECTS:

- X-31, X-33, X-37, X-38, X-40, X-43A, F-18, F-15, F-16XL, C-17, UCAV, Pathfinder

### CONTACT:

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The NASA Dryden Research Aircraft Integration Facility (RAIF) and its simulation capabilities support the most advanced aeronautical and space-based research now and in the future, through all phases of vehicle design, development, systems integration, verification, validation, and flight test.



### Test Bay Vehicle Support Infrastructure

- Vehicle avionics cooling supply
- Independent hydraulic supply systems
- 120/208 three-phase 400 Hz power
- 28Vdc 400 Hz power
- 277/480V three-phase 60 Hz power
- Uninterruptible 277/480 60Hz power

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