

NASA GLENN RESEARCH CENTER OVERVIEW

Donald J. Campbell
National Aeronautics and Space Administration
Glenn Research Center
Cleveland, Ohio

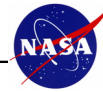
CENTER OVERVIEW

Donald J. Campbell
Director

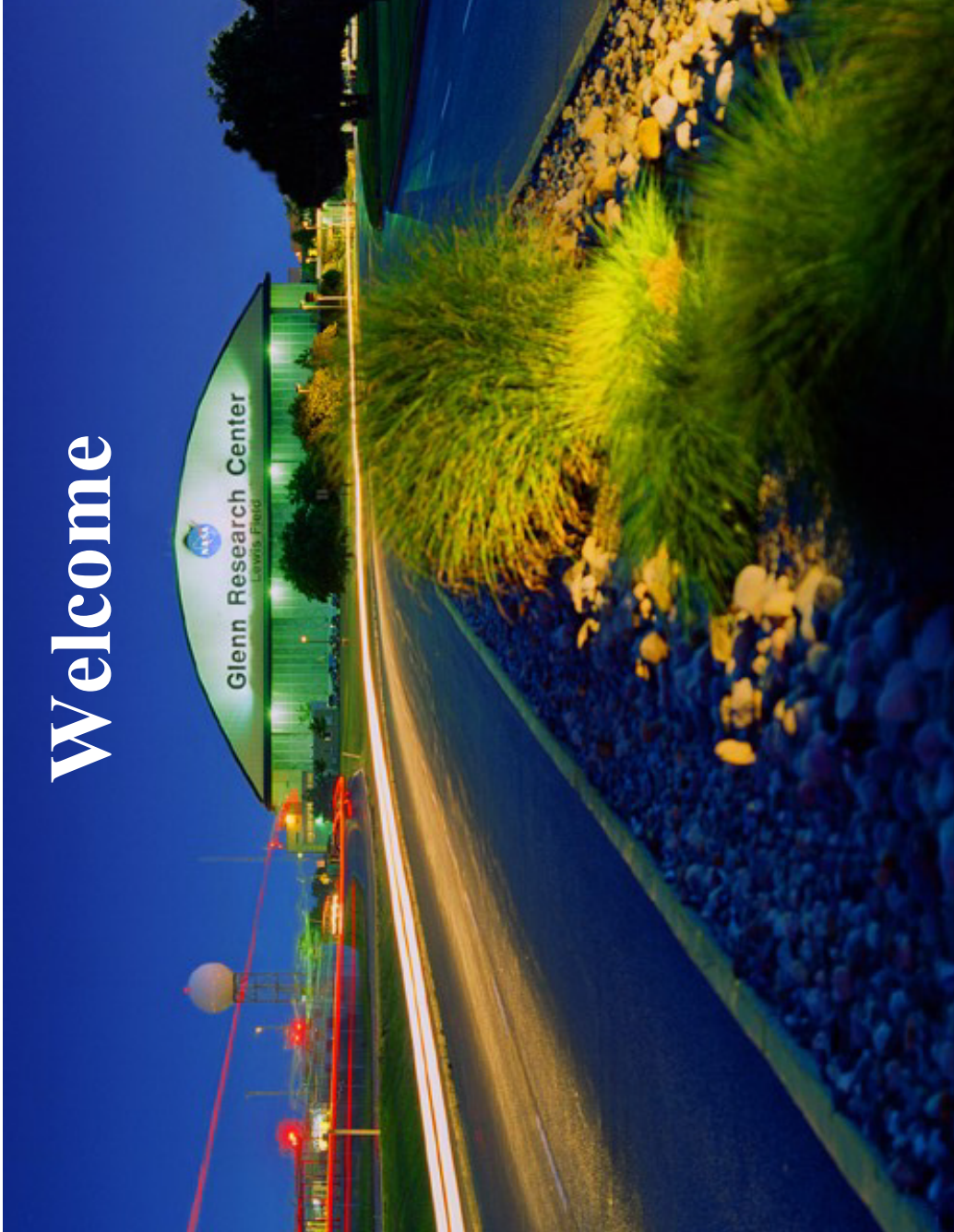


GLENN RESEARCH CENTER

at Lewis Field

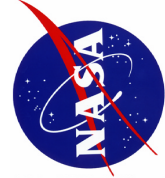


Welcome

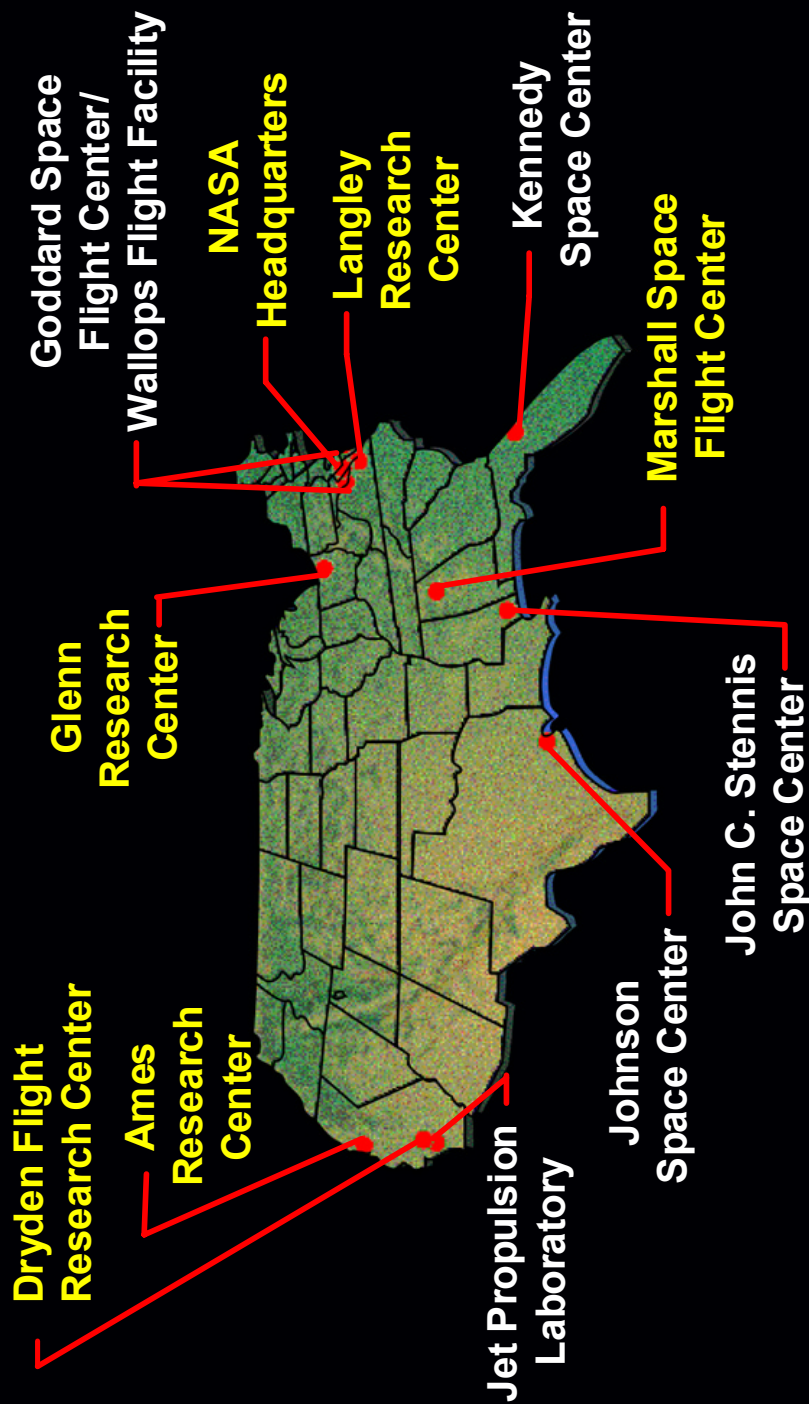


GLENN RESEARCH CENTER

at Lewis Field



NASA Installations



GLENN RESEARCH CENTER

at Lewis Field





NASA's Vision

- To improve life here
- To extend life to there
- To find life beyond

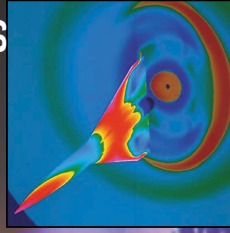
NASA's Mission

- To understand and protect our home planet
- To explore the universe and search for life
- To inspire the next generation of explorers

...as only NASA can

5 Strategic Enterprises

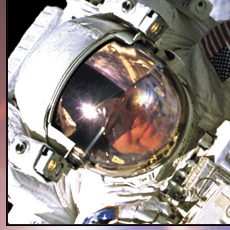
Aerospace Technology



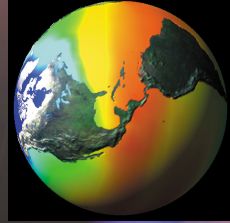
Biological & Physical Research



HEDS



Earth Science



Space Science

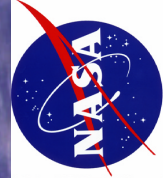


One NASA



GLENN RESEARCH CENTER

at Lewis Field



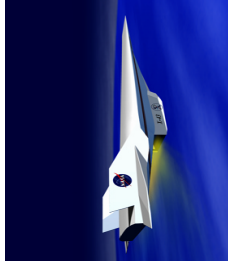
NASA Aerospace Technology - Themes



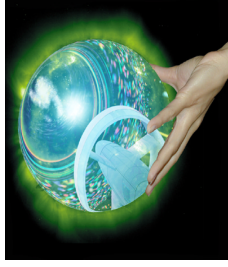
**Revolutionize
Aviation**



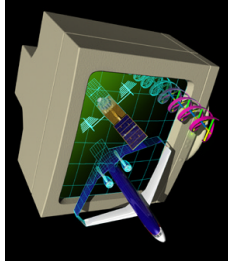
**Space Launch
Initiative**



**Advanced Space
Transportation
Technology**



**Fundamental
Technology**

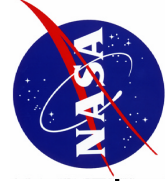


**Commercial
Technology**



GLENN RESEARCH CENTER

at Lewis Field



GRC Roles and Responsibilities

Primary Responsibility

- Aeropropulsion

Additional Responsibilities

- Space Propulsion
- Space Power
- Space Communications

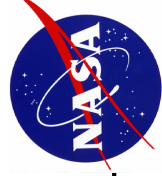
Transformational Responsibilities

- Microgravity

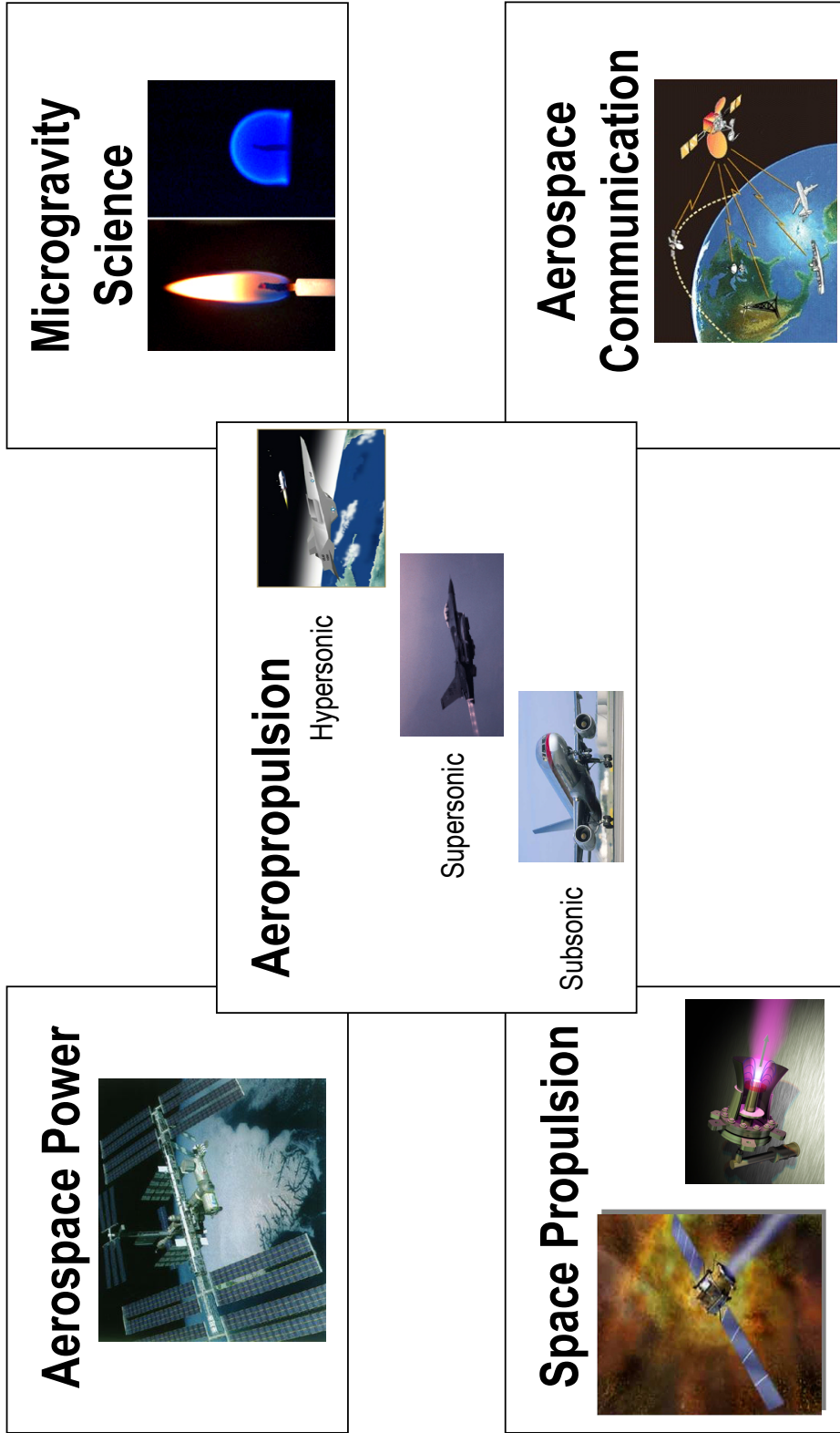


GLENN RESEARCH CENTER

at Lewis Field

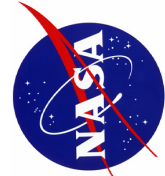


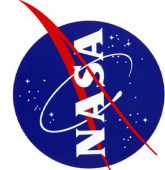
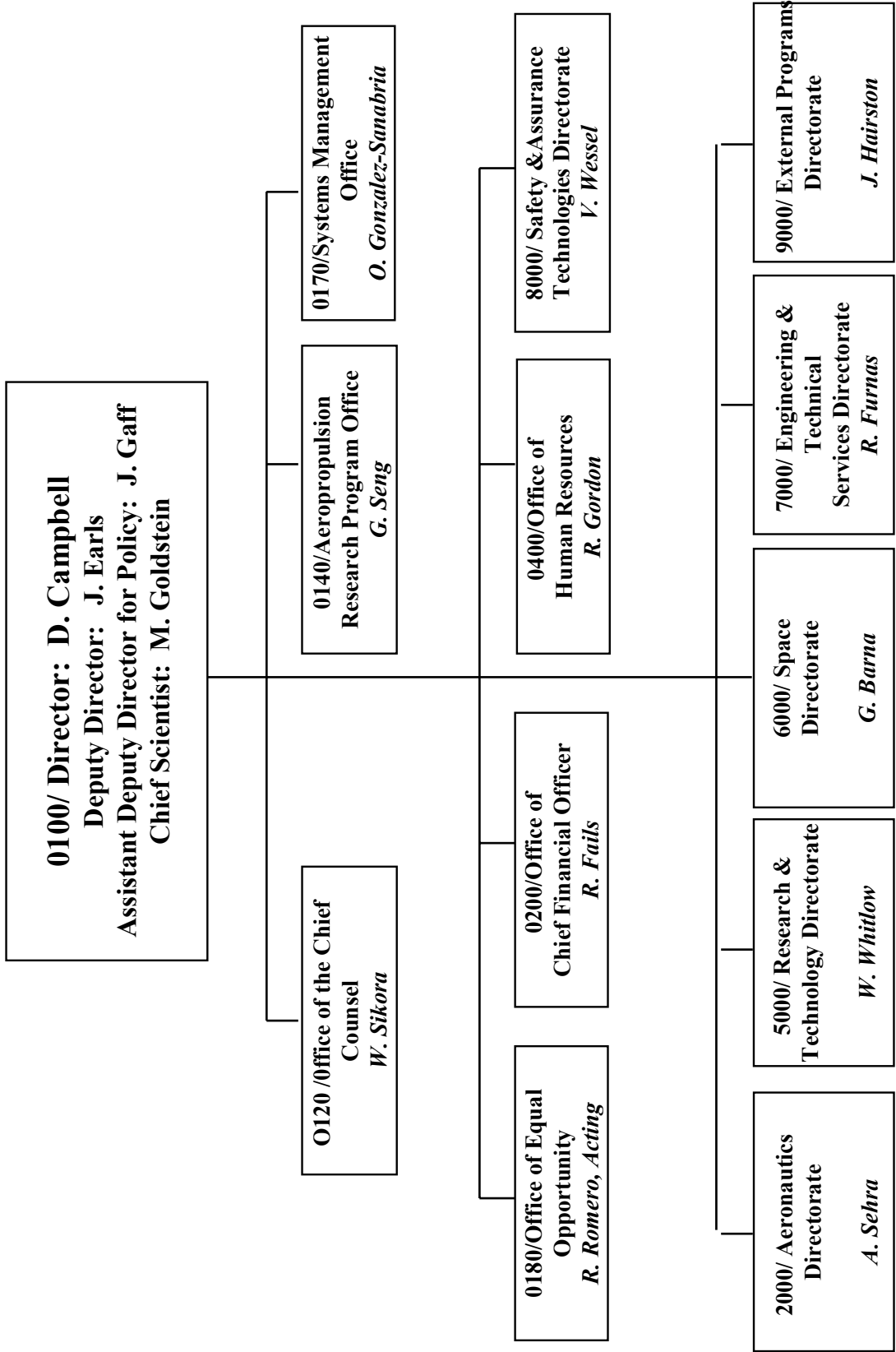
GRC Mission Areas



GLENN RESEARCH CENTER

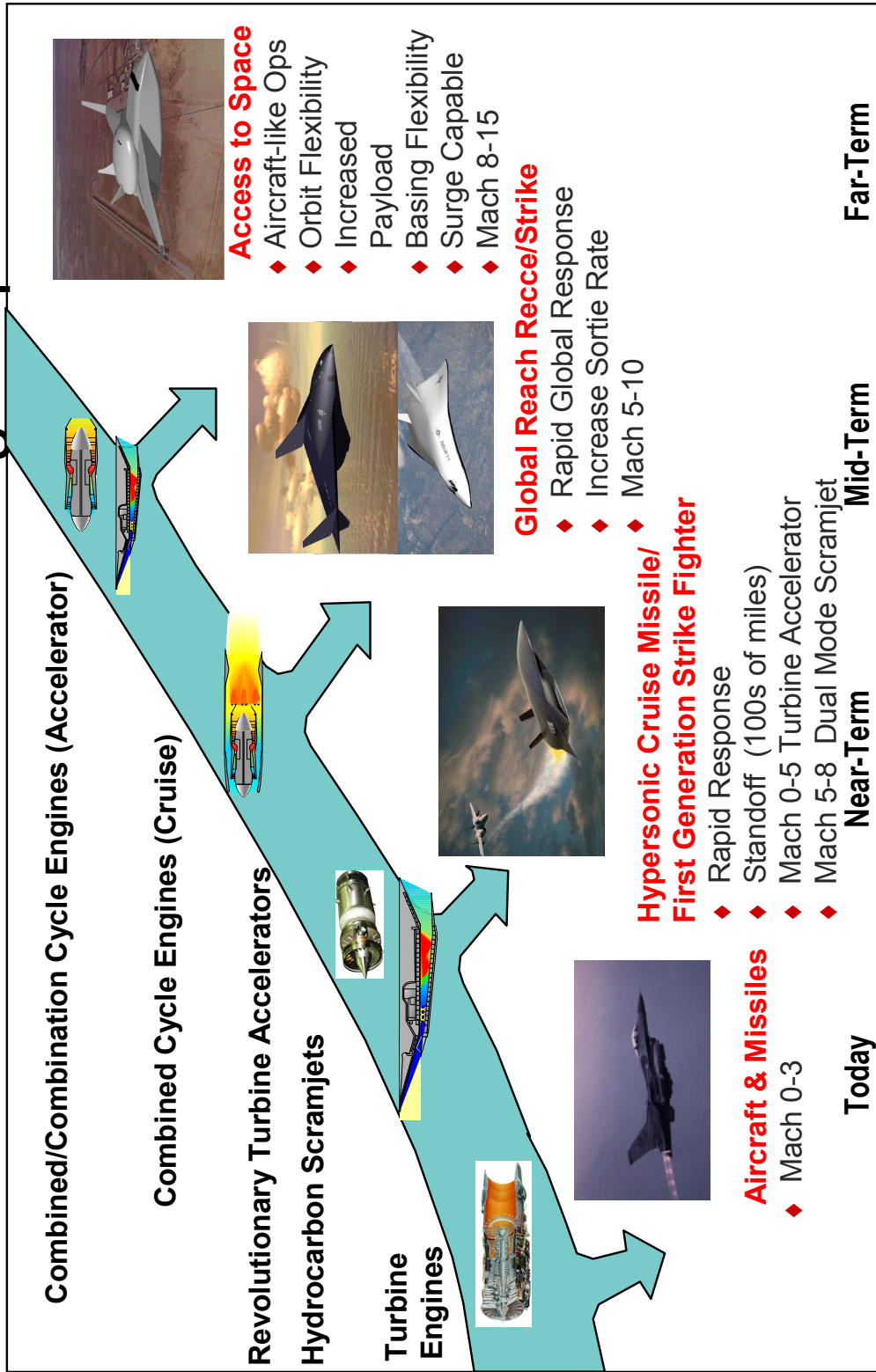
at Lewis Field





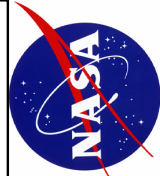
GRC GLENN RESEARCH CENTER
at Lewis Field

Potential Uses of Airbreathing Propulsion



GLENN RESEARCH CENTER

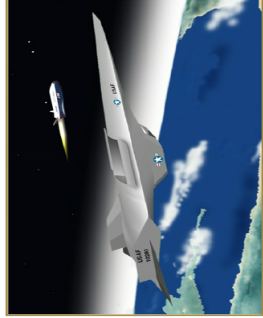
at Lewis Field



GRC Space

Communications

- Modeling/Analyses
- Antennas
- Solid-state devices
- Digital communications
- Vacuum electronics
- Satellite/terrestrial networks
- Spectrum Management



Space Transportation

- Advanced Concepts/Analyses
- Airbreathing Propulsion
- Propulsion Materials/Structures
- Subsystems (Power, Actuators)
- Propellants
- Vehicle Health Management

Microgravity Science



- Fluid Physics
- Combustion science
- BioScience and Engineering
- Acceleration measurements
- Flight exp. development & operations
- Space Station utilization

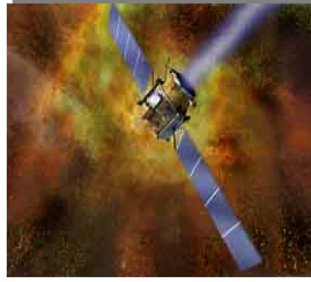
Power

- Architecture/Analyses
- Generation
- Storage
- Distribution/Control
- Environmental durability
- Space Station support



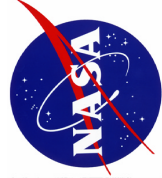
Space Propulsion

- Modeling/Analyses
- Electric
- Chemical
- Thrusters/Controls & Electronics/Feed Sys.



GLENN RESEARCH CENTER

at Lewis Field



Future Plans

Advanced aero, space, & aerospace propulsion systems

Nanotechnology & nanostructural engineering

Biomedical engineering & biotechnology

Information, data, & communications technology

Advanced health monitoring devices

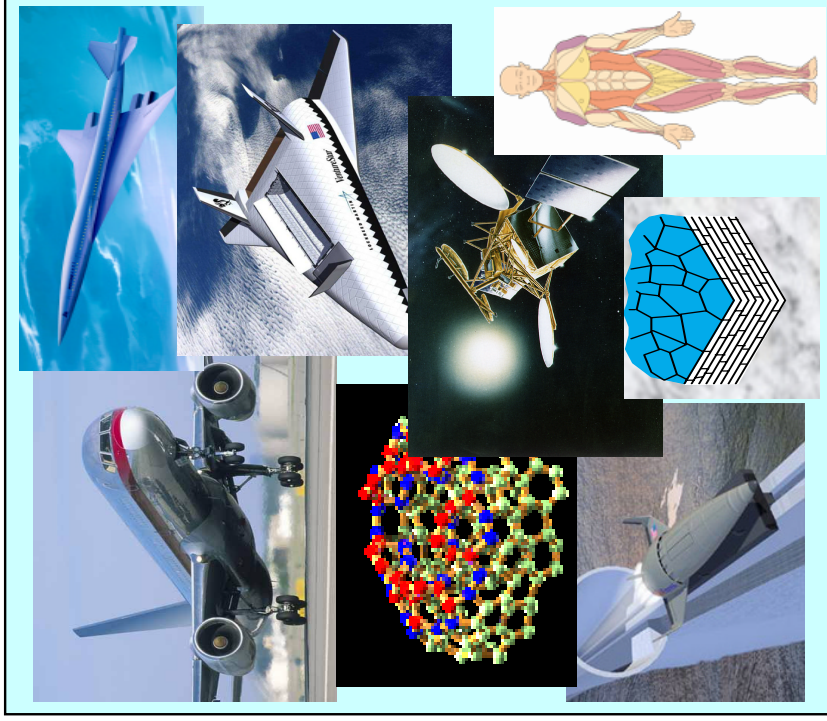
Diagnostic instruments and controls

Longer life, lower cost, lightweight turbomachinery

Computationally designed materials & structures

Improved modeling, analysis, & computational methods

Advanced aerospace power systems



GLENN RESEARCH CENTER

at Lewis Field

