# Vision

- **Imagine a day when a 911 emergency medical call immediately launches a vehicle to the aid of a victim trapped in an inaccessible location in the wilderness. The vehicle:**
    - Self-Plans
    - Self-Files
    - Self-Launches once needed medical supplies are loaded
    - Self Navigates Safely
    - Coordinates its own refueling
    - Finds the injured victim
    - Self-Lands delivering the supplies
    - Launches and establishes communication between the victim and trained medical personnel
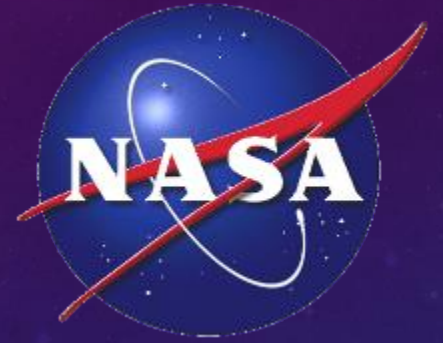
Traveler

Trustworthy Autonomy

AFRC - LaRC - AFRL - FAA

How we will achieve this

1. **Modular Software Architecture**
   - Top down architecture hierarchy with clearly specified interfaces
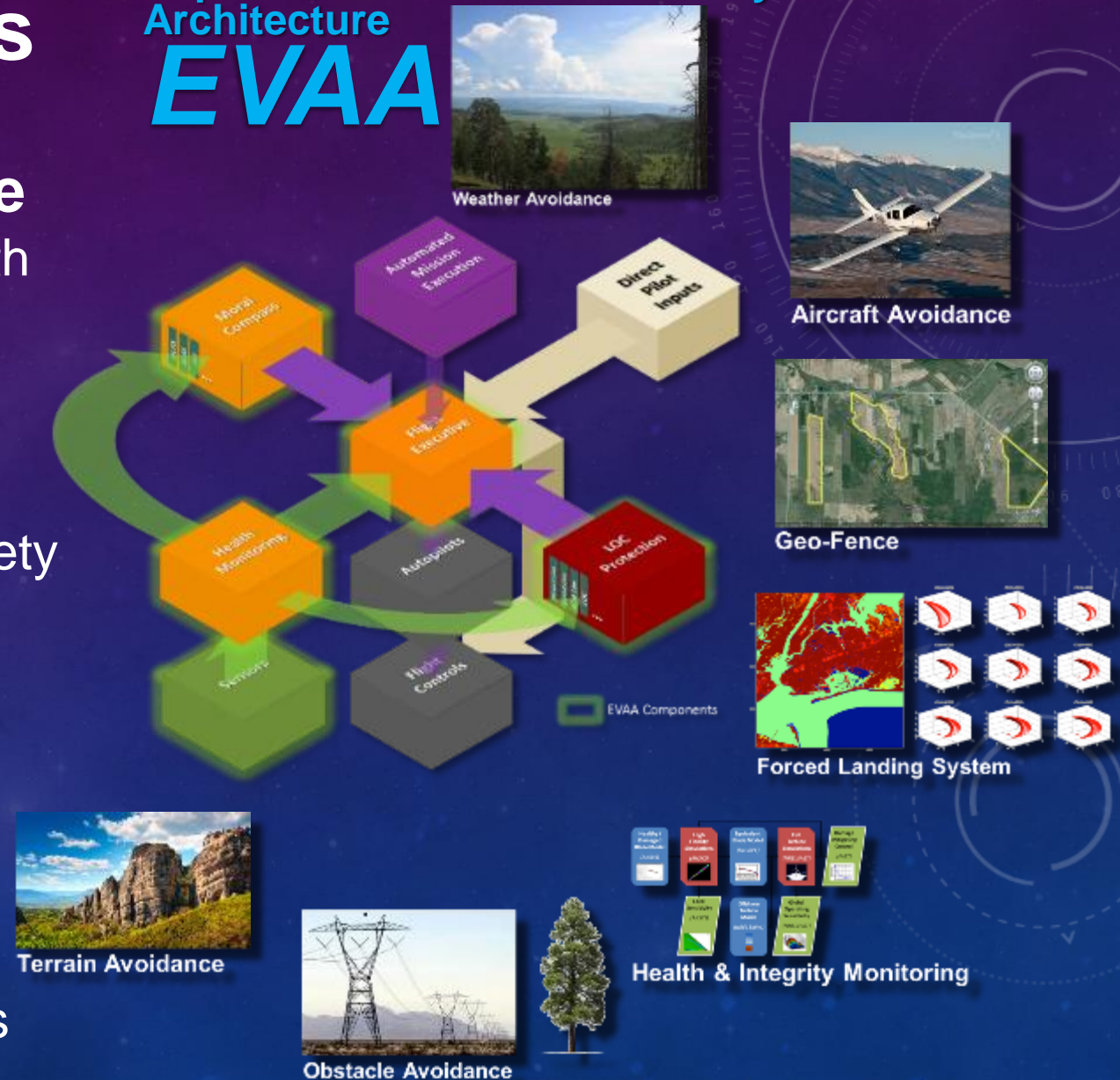
2. **Functionally Partitioned Modules**
   - Each module limited to a single safety function
   - Software isolation of Vehicle performance modeling

3. **Computational Agility**
   - Rapid assessment of vehicle situational hazards with quick and decisive mitigation of those hazards

Expandable Variable-Autonomy Architecture
EVAA

Weather Avoidance

Aircraft Avoidance

Geo-Fence

Forced Landing System

Terrain Avoidance

Obstacle Avoidance

Health & Integrity Monitoring

EVAA Components

Developmental Test & Evaluation

Common Vehicles

Elissa

QR4

Common Hardware

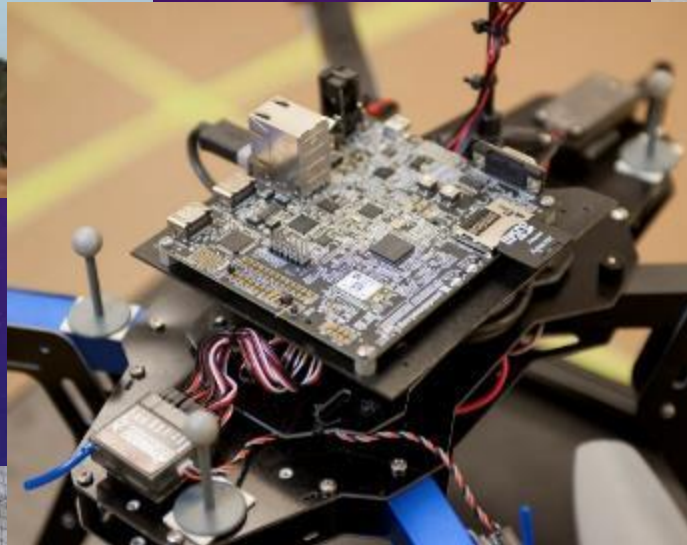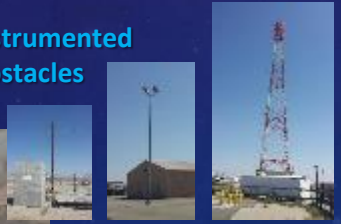EVAA Processor

Instrumented Obstacles

Test Ranges

Indoor Range

Urban Range

Rural-Desert Range

High-Altitude Wilderness Range