Agenda

- Unmanned aerial systems application areas
- AGI capabilities
- STK 8 – Aircraft Mission Modeler
UAV System Application Areas

- RFP prep
- Proposal evaluation
- System design
- Testing & evaluation
- Mission planning
- Operations
- Post-flight analysis
AGI Software Capabilities

- Platform route
- Sensor modeling
- Communications
- Navigation accuracy
- Threat analysis
- Trade studies
- 4-D visualization
Route Analysis

- Re-routing capability
- Model UAV performance
- Import routes
- Route optimization
Evaluate Sensor Coverage

- Dynamic analysis of coverage
Evaluate Sensor Coverage

• Dynamic analysis of coverage

• Evaluate coverage for custom sensor footprints
  – Over defined areas of interest
Evaluate Sensor Coverage

- Dynamic analysis of coverage
- Evaluate coverage for custom sensor footprints
  - Over defined areas of interest
- Complex constraint modeling
  - Terrain
  - Urban canyons
Evaluate Sensor Coverage

- Dynamic analysis of coverage
- Evaluate coverage for custom sensor footprints
  - Over defined areas of interest
- Complex constraint modeling
  - Terrain
  - Urban canyons
  - Platform body masking
  - Vehicle attitude
Evaluate Sensor Coverage

• Dynamic analysis of coverage
• Evaluate coverage for custom sensor footprints
  – Over defined areas of interest
• Complex constraint modeling
  – Terrain
  – Urban canyons
  – Platform body masking
  – Vehicle attitude
  – Weather
  – Time
  – Lighting conditions
  – Graze angle
Evaluate Sensor Coverage

- Dynamic analysis of coverage
- Evaluate coverage for custom sensor footprints
  - Over defined areas of interest
- Complex constraint modeling
  - Terrain
  - Urban canyons
  - Platform body masking
  - Vehicle attitude
  - Weather
  - Time
  - Lighting conditions
  - Graze angle
- Quality of coverage
Communications

- Multi-asset network
- Dynamic comm-link analysis and modeling
- Weather modeling
- Customizable RF modeling
- Interference analysis
Navigation

- Model GPS-dependent equipment in complex environments
- Near-real-time updates
Navigation

- Model GPS-dependent equipment in complex environments
- Near-real-time updates
- Model jamming environments and interference effects
Operations

• Ingest RT feeds for situational awareness
• Visual cues
  – Vectors
  – Color-coded models
• Compare planned vs. actual
• Dynamic re-planning
Threat Analysis

- Enemy threat ranges
- Region avoidance
- Radar analysis
- Alerts
Post-Flight Analysis

- Collection assessment
- Export mission in 3D
- Evaluate plan
- Validate models
Trade Studies

- Payload planning
- Monte Carlo and Parametric analysis
- Sensor coverage analysis
4-D Visualization

- Terrain and imagery
- Aircraft 3-D models
- GIS interface
- 3-D object editing
- Visual cues
UAV System Application Areas

- Concepts evaluation
- System design
- Testing & evaluation
- Mission design
- Operations
- Post-mission analysis

Platform route
Sensor modeling
Communications
Navigation accuracy
Threat analysis
Trade studies
4D visualization
STK 8

- Aircraft Mission Modeler
  - VTOL
  - V/STOL
AMM For STK 8

- Vertical takeoff/landing
- Hover
AMM For STK 8

- Transition to hover
- Transition to forward flight
AMM For STK 8

- Hover translate
AMM For STK 8

- VTOL characteristics
AMM For STK 8

- VTOL characteristics
- Configuration
Aircraft Attitude

Zero AOA
Aircraft Attitude

Helicopter mode
Summary

• Improve your “mission” throughout the life cycle
• AGI capabilities
• VTOL, V/STOL
Thank you