Technological Enablers and Restrictors Discussion

How Do We Evolve Together?

Moderator: Jim Eck

- Jay Merkle
- Earl Lawrence
- Dr. Ed Waggoner
- Paul McDuffee
- Michael Lewis

Send questions to talkUAS@faa.gov – include breakout session topic in subject line
CNS/ATM Evolution

Risk/Complexity

Integrated Operations
By Full Performance-Based Rules (Class A/B/C/D Ops)

Segregated Operations VLOS –
Over People / High Density

Segregated Operations –
VLOS Over People / Low Density

Segregated Operations
By Rule 107 –
VLOS Class G

333/336 Ops –
Segregated Operations
By Waiver/Exemption

CNS/ATM systems
Compliant with risk based performance standards

Registration

Notification

Schedule (UTM)

Transit Controlled Airspace (UTM)

Integrated Class A,B,C,D Airspace

UAS CNS/ATM systems fully interoperable with NAS services

UAS Integrated Information Systems with ATM

UAS Integrated Information Systems

UAS Information Systems

Functionality Over Time
CNS/ATM Evolution

Risk/Complexity

Integrated Operations
By Full Performance-Based Rules
(Class A/B/C/D Ops)

Segregated Operations VLOS –
Over People / High Density

Segregated Operations –
VLOS Over People / Low Density

Segregated Operations
By Rule 107 –
VLOS Class G

333/336 Ops –
Segregated Operations
By Waiver/Exemption

Functionality Over Time

Identification, Location and Intent

Communication

Detect, Sense and Avoid

Command and Control

ADS-B

Transit Controlled Airspace (UTM)

Integrated
Class A,B,C,D
Airspace

UAS Integrated
Information
Systems with ATM

UAS Information
Systems

Schedule (UTM)

Notification

User Provided

None Beacon?

Static Identification

Registration
CNS/ATM Evolution

Risk/Complexity

Integrated Operations
By Full Performance-Based Rules
(Class A/B/C/D Ops)

Segregated Operations VLOS –
Over People / High Density

Segregated Operations –
VLOS Over People / Low Density

Segregated Operations
By Rule 107 – VLOS Class G

333/336 Ops – Segregated Operations
By Waiver/Exemption

Functionality Over Time

Identification, Location and Intent

Communication

Detect, Sense and Avoid

Transit Controlled Airspace (UTM)

Integrated Class A,B,C,D Airspace

Fly like an aircraft

UAS ATM Integration

Vehicle Information

Automation and Information

UAS Traffic Management

Notification

Schedule (UTM)

User Provided

None Beacon?

Registration

Fly autonomous

UAS Info Management

Detect, Sense
and Avoid

ADS-B

Command and Control

UAS Info
Management

Functionality Over Time
Technological Enablers and Restrictors Discussion

How Do We Evolve Together?

Moderator: Jim Eck

- Jay Merkle
- Earl Lawrence
- Dr. Ed Waggoner
- Paul McDuffee
- Michael Lewis

Send questions to talkUAS@faa.gov – include breakout session topic in subject line