



Minneapolis - Denver -
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UAS Weather Operations

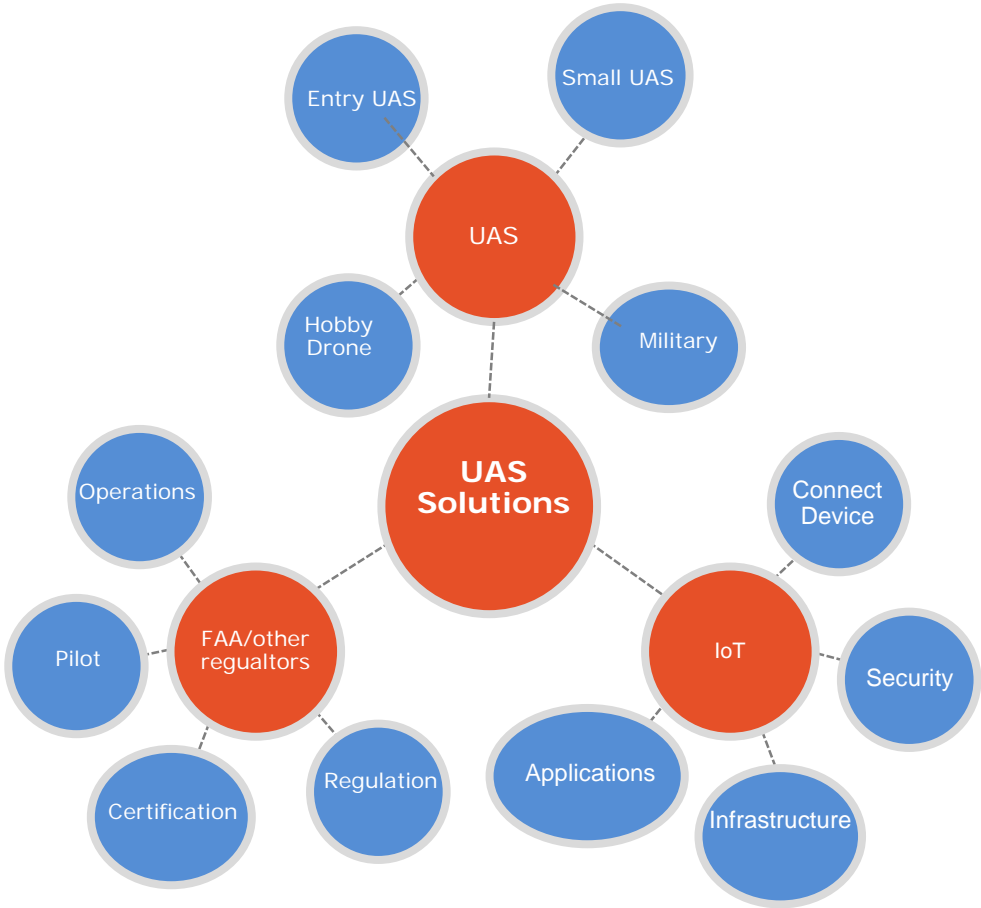
FPAW NBAA BACE MCO
Capt Joe Burns CEO

November 2-3 2016

Why is this so big?

UAS Industry

Shaping
The
\$100B Global
UAS Economy



Why are UAVs so big so suddenly?

- ❑ They are in all airspace (uncontrolled and soon controlled airspace)
- ❑ Basis for future NextGen Ops
- ❑ FAA 107/Reauthorization of 2014
- ❑ Can perform many of the current manned missions – ISR, Data, Package ops – dull/dirty/dangerous
- ❑ Toy factor soon to go away



Why is WX important to operators

- ❑ Wing loading is much lower – more susceptible to turbulence and windshear
- ❑ Mass is much lower - more susceptible to turbulence and windshear
- ❑ Stall speeds much lower than Part 23 and Part 25 – winds have a dramatically increased impact
- ❑ Lower boundary layer atmospheric not well reported
- ❑ Dramatic wind shifts/shear from surface to 500' for small UAS
- ❑ Temperature susceptibility to Li-Ion packs
- ❑ Most plastic airframes cannot take too much solar exposure
- ❑ Most UAS are not intended for flight into IMC – Icing, precip, loss of Vis, C&V all potential issues
- ❑ Many lower boundary windspeeds can exceed forward flight speeds – thus creating a no-return scenario.
- ❑ A briefing is theoretically required – but where do the pilots get one? FSS is not yet equipped to handle UAS briefing requests

What are current UAS WX requirements?

107.49 Preflight familiarization, inspection, and actions for aircraft operation.

Prior to flight, the remote pilot in command must:

(a) Assess the operating environment, considering risks to persons and property in the immediate vicinity both on the surface and in the air. ***This assessment must include:***

include:

(1) Local weather conditions;

(2) Local airspace and any flight restrictions;

(3) The location of persons and property on the surface; and

(4) Other ground hazards.

(b) Ensure that all persons directly participating in the small unmanned aircraft operation are informed about the operating conditions, emergency procedures, contingency procedures, roles and responsibilities, and potential hazards;

(c) Ensure that all control links between ground control station and the small unmanned aircraft are working properly;

(d) If the small unmanned aircraft is powered, ensure that there is enough available power for the small unmanned aircraft system to operate for the intended operational time; and

(e) Ensure that any object attached or carried by the small unmanned aircraft is secure and does not adversely affect the flight characteristics or controllability of the aircraft.