

NOTES FROM 5th Human Factors Issues in Imagery Analysis Using UAVs Workshop

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Quote representative of the workshop from Staff Sgt. Hoen: “Without the camera the [unmanned] system is useless.”

Interesting connection made: Bridget O’Hare of Banner Health pointed out that spatial ability issues and target detection has much in common with wrong-sided surgery.

Challenges Identified:

Research (Evans) indicates that best performing teams find less than 50% of the targets

Detection is the first problem; interpretation is later

Need for constant vigilance on the target

Incompatible motion (vehicle, target, and sometimes ground control station)

Desire for multi-UAV control

Poor quality imagery

Smart targets (adversarial and want to do harm)

Communicating imagery with words

Asymmetric warfare

Need for critical thinking and knowledge of cultural/behavioral trends

Possible Technological Solutions

Built in recursive movement

Views (over shoulder, birds-eye)

Selection for spatial ability

Training spatial ability

Image transmission between teammates

Camera controlled by warfighter on the ground

Haptic feedback

Auditory feedback

Selective filtering

High resolution imagery

Sensor integration

Picture-in-picture

Transition displays

Synthetic overlays

General response to panel Questions:

What makes imagery analysis using UAVs a difficult task?

Chat communications

Complacency and boredom

Dynamic nature of target

Are some individual better at imagery analysis using UAVs than others?

Yes and most pick it up at different paces.

It is a task that is primarily learned.

How can technology help?

Geostabilization

Vigilance prompts

Synthetic sensation approach to integration

Teach people how to think critically