

Warfighter Trust in Autonomy



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What is Trust to a Warfighter?

- Genuine concern for our best interest
- Value of success outweighs consequence of failure
- Human nature of trust (i.e. shared suffering)



Is it Possible to Trust a Machine?

- Absolutely – GPS
- Observability, Predictability, Directability
- Necessary to understand why something fails
- Humans do not succeed 100% of the time



Autonomization

Want

- Man-out-of-the-loop
- Man-on-the-loop
- Staff functions

Do Not Want

- Man-in-the-loop
- Approval process of kill chain (until allowed)
- Burden of command

Minimal (ideally zero) interventions and interactions with unmanned system with accountability still residing with the warfighter.

If it does not increase maneuverability, lethality, or tempo, it is not worth it. Do not autonomize a system just because it is possible!

Training Manned-Unmanned Teams

- Overall evaluation of team's performance does not change with addition of system(s)
- Capabilities and limitations of systems must be fully understood
- Formal CONOPs and CONEMPs will be developed
- Must be able to learn and fail with us if able to make cognitive decisions
- “Curricula” must be established and vetted specific to unmanned systems if they have the ability to learn differently than humans (i.e. CNNs)

Test and Evaluation

- Brittle systems thrust into Operational Testing erodes trust and creates confirmation bias
- Evaluating efficiencies within a team?
- Human system interfacing (diagnostic tools, feedback mechanisms, etc.) are paramount!
- Truly evaluate against holistic requirement (weight reduction system that carries 1,000 lbs but weighs 2,000 is not effective)