



STEReO

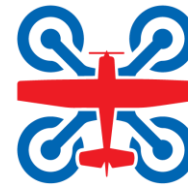
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HAI
AERIAL FIREFIGHTING
SAFETY CONFERENCE

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approach

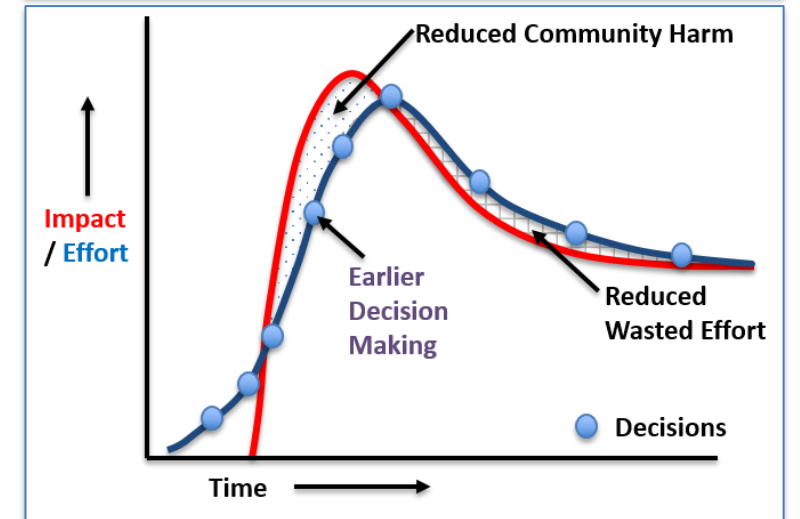
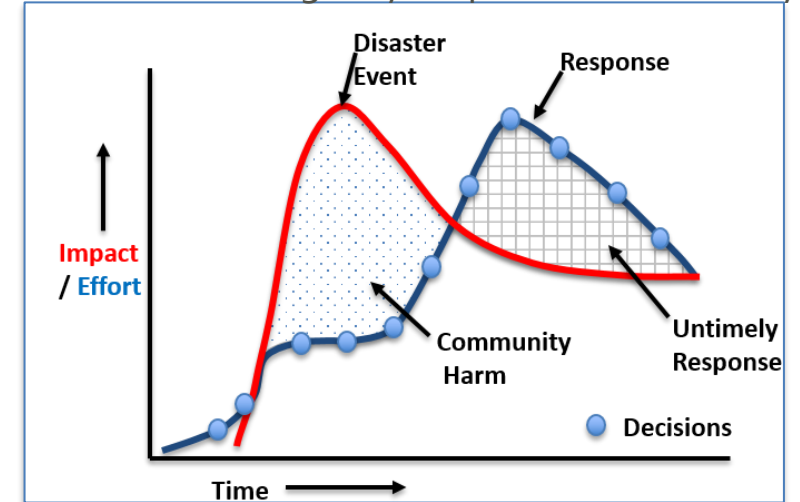
- assume this ----->
- work towards this ----->

underlying question:

to what extent can a UTM-like ecosystem:

- (1) build trust amongst aviators?
- (2) scale aircraft operations?
- (3) provide operational resiliency?

theoretical emergency response (current-day)

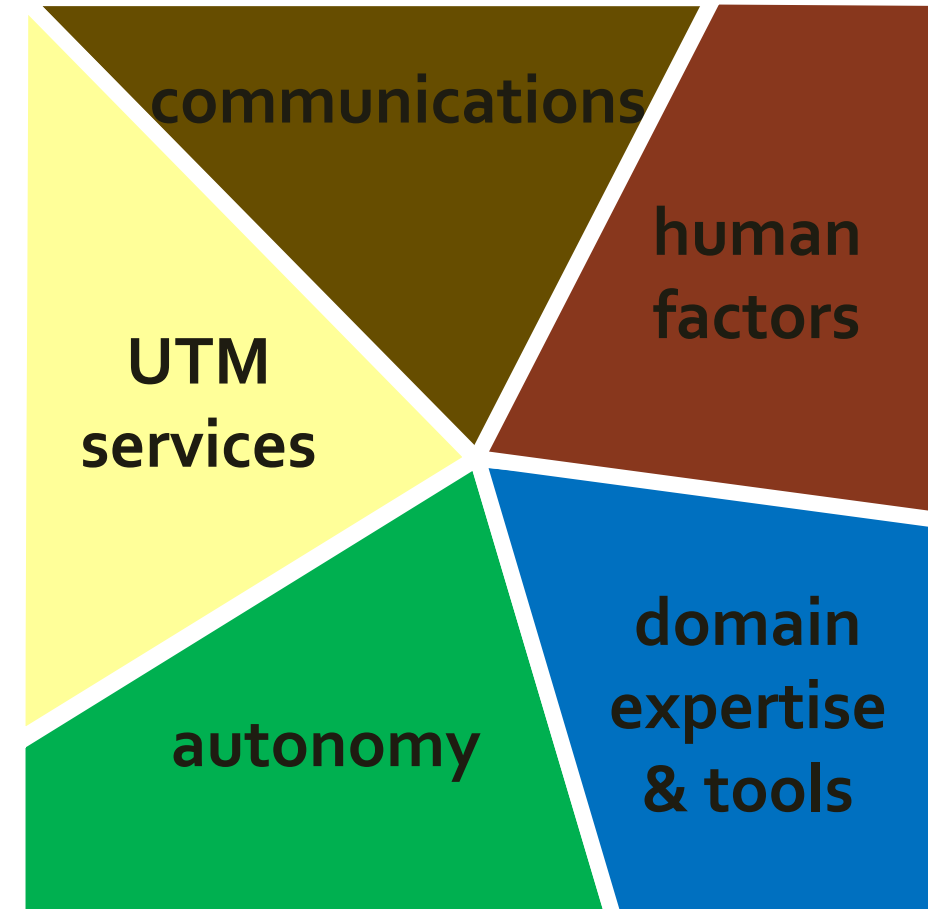


theoretical emergency response (STEReO)



task breakdown

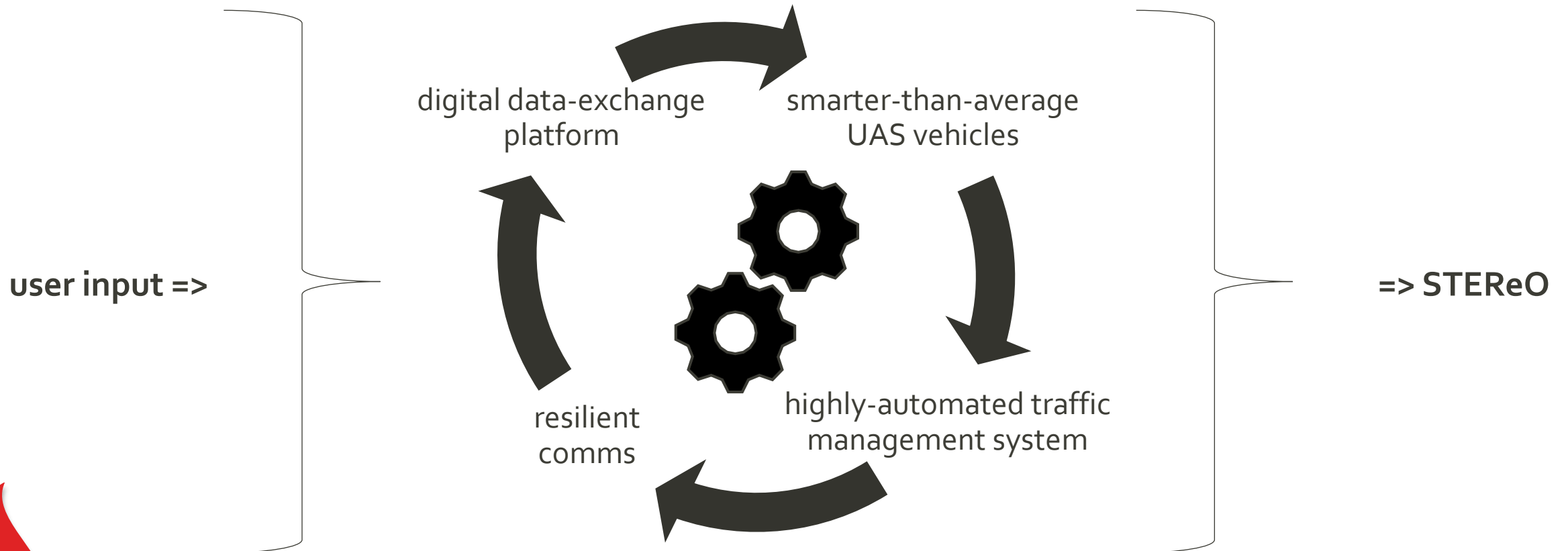
- apply NASA's expertise in four areas:
 - communications/connectivity
 - UTM services
 - vehicle autonomy
 - human factors
- leverage partner resources and skillsets:
 - domain expertise & tools



iterative development

- what if UAS vehicles could routinely operate BVLOS?
 - what about the C2 link?
 - how will the operator participate in see-and-avoid?
- what if piloted aircraft could see the operating areas for sUAS missions?
 - like on a popular flight following/planning app?
 - how do we do that with no ADS-B out on sUAS, no internet, or no cell coverage?
 - is this now more stuff i need to monitor while i'm already super busy?
- what if sUAS operators could see the ADS-B tracks of piloted aircraft?
 - =>technology-enhanced operations...

putting it all together...



operationally-relevant testing

- USFS National Aerial Supervision Training Academy (NASTA)
 - mesa, AZ
 - march 1-5, 2021
- simulated flight test
 - fusion of real-time ADS-B information from piloted USFS aircraft, simulated NASA sUAS vehicles, and simulated ground assets, into a portable USS/comms package, displayed in a common-operating picture
 - conducted as a sand-table exercise with flight crew, air attack, and division actors





NASTA video 1



insights and next steps

- “technology-enhanced operations”
- “trust but verify”
- “transfer of risk”

- improved awareness => more options & better outcomes

- end-user engagement is critical to product success



questions?

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