Homeland Defense & Security
Information Analysis Center

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Overview

A Department of Defense Information Analysis Center representative to the United States Special Operations Command (USSOCOM) requested information regarding late-stage technology readiness level (TRL) research efforts and commercial off-the-shelf (COTS) technologies capable of addressing emergency communication network gaps relating to humanitarian aid and disaster relief (HA/DR) operations.

Findings

HDIAC identified several solutions capable of addressing USSOCOM's requirement and focused on technologies with a TRL of 7, with one exception (TRL 5), relevant to USSOCOMs technical requirement. Table 1 provides company/contact information, as well as salient details concerning the system's use in HA/DR operations. Table 2 provides relevant images of systems.

System	Company Information	System Type	TRL	Contact Info	Details
HARRIER Rapid Communication Kit [1]	IPaccess International, CA National Guard www.ipinternational.net	Satellite dish	8	CW2 Richard Wilhelm Email: Richard.l.wilhelm7vol@mail.mil Phone: 858-357-3174	Deployable communications solution for first responders that provides cellular, data, voice, and video streaming via satellite. Enables cell service and onboard dual-band WiFi network [1].
SkySat, Lighter-than-Air LTE, SkyEye [2]	Space Data Corporation www.spacedata.net	Balloon with attached payloads	8	Jerry Quenneville Email: jerryq@spacedata.net Phone: 480-403-0032	Communication network that utilizes an aerostat-like device for wide area-coms coverage. The system utilizes an Ultra High Frequency to produce a military communication relay on a tethered and stratospheric 4G network that provides internet and phone access to a disaster zone spanning 600 miles [2].
Satellite Cell on Light Truck (SatCOLT) [3]	Sprint Emergency Response Team https://government.sprint.com/emergency-response-team/	Light truck	9	Casey Muilenburg Email: Casey.muilenburg@sprint.com Phone: 206-290-4793	Provides cellular and data services within a five mile zone around the system, along with a scalable WiFi network allowing for continuous communications, regardless of proximity to an existing network [3].
Handheld and Portable Voice and Data Devices [4]	Globalstar www.globalstar.com	Satellite communication devices	7	Ronald Wright Email: Ronald.wright@glbalstar.com Phone: 503-739-7090	Allows dependable communication methods via satellite when major communications are down or being re-established [4].
Enhanced IoTt-Based End-to-End Emergency and Disaster Relief System [5]	Qatar Mobility Innovations Center www.qmic.com	Communication network	5	Dhafer Ben Arbia Email: dhafera@qmic.com Phone: +974-5010-8593	Intended as a wireless autonomous communication system in order to transfer data from a disaster area back to a command center using wearable wireless sensors. This system runs off an Optimized Routing Approach for Critical and Emergency Networks (ORACE-NET) [5].

Table 1: HA/DR Communications Technologies

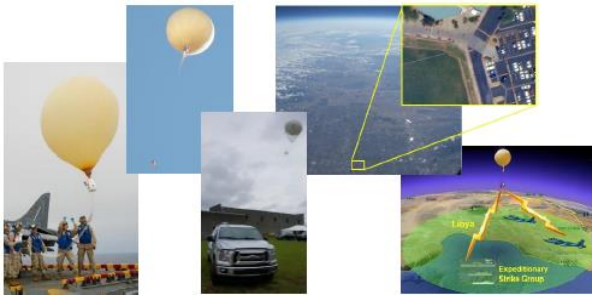
 HARRIER Rapid Communication Kit [1]	 SkySat, Ligher-than-Air LTE, SkyEye [2]
 SatCOLT [3]	 Handheld and Portable Voice and Data Devices [4]

Table 2: Relevant Images

Conclusion

HDIAC identified several late-stage TRL research efforts and COTS technologies that can address USSOCOM's emergency communication network gaps during HA/DR operations. A more comprehensive analysis of emergency communication network platforms is available through an HDIAC Core Analysis Task, which would feature in-depth subject matter expert elicitation and coordination with leading industry representatives, as well as prototype development of leading technology candidates to meet USSOCOM's requirements for the rapid deployment of a communications network to support HA/DR operations.

We request your feedback on this Inquiry: https://www.hdiac.org/new-inquiry-assessment-form/

References

1. IPaccess International (2019). HARRIER Rapid Communications Kit Cutsheet. Retrieved from http://www.ipinternational.net/wp-content/uploads/2017/01/HARRIERCutsheet.pdf
2. Space Data Corporation (2019). SkySat. Retrieved from https://www.spacedata.net/government/skysat/
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4. Globalstar (2019). Voice and Data Products. Retrieved from https://www.globalstar.com/en-us/products/voice-and-data
5. Arbia, D.B. (2017, August). Enhanced IoT-Based End-To-End Emergency and Disaster Relief System. Journal Article (HD278518) Perf Org: Qatar Mobility Innovations Center (QMIC), Qatar University.