Perspectives on All Domain Electromagnetic Spectrum Operations

AOC Europe Online Summit

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Dustan Hellwig

CEO/CTO of CTI

Dustan has been working in the spectrum, EW, and CEMA environments for over 30 years. As the CEO and CTO for CTI he focuses on strategic planning and forward-leaning technology development and helping CTI fulfill the needs of its users across the department and the force.

After graduating from Virginia Tech in Mathematics, Dustan was also awarded Master's degrees from the University of Maryland and American Military University. Dustan has been a software developer, engineer, architect, and business owner over the past three decades.

Dustan's day-to-day life of working at home; hiking, running, and walking the dogs; and enjoying the Colorado mountains did not change all that much over the past year. Aside from less flight miles that is!

Perspectives on All-Domain Electromagnetic Spectrum Operations

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"Battlefield Digitization"

In order to plan, coordinate, execute, deconflict, and assess Electromagnetic Spectrum Operations across the Multi-Domain and Multi-National Battle, an operational and technological construct must be developed, integrated, trained, and deployed across all spectrum participants for ensuring survivable and successful sensing, force projection, navigation, synchronization, and communication throughout this invisible domain. CTI has created this capability set using open platforms, collaborative development, cloud-based data lakes, and pervasive spectrum sensing. This brief highlights the advances made over the past year in getting a coherent JEMSO capability out to the U.S. and multi-national force.

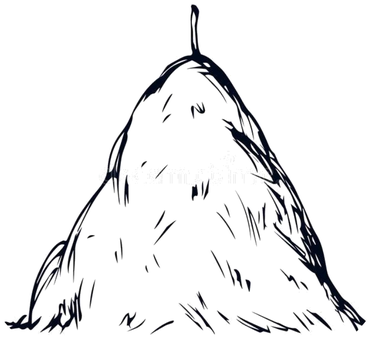
Why are we “not there”?

The U.S. and its partners have tried for decades to create flexible, interoperable, saleable, USABLE systems for Spectrum Operations, Command and Control, and other complex military activities … why have we not succeeded?

“OPEN” NOT OPEN

REAL USER INVOLVEMENT

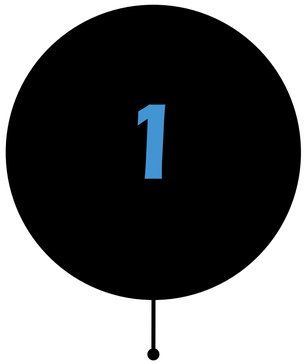
NOT THE RIGHT STANDARDS



PERSISTENCE AND COVERAGE

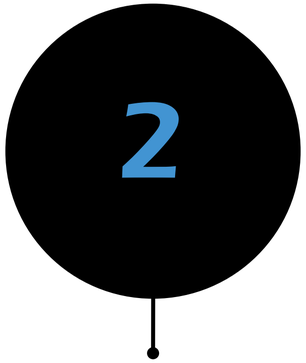
How do we get “there”?

CTI has decades of experience building open, rapid, usable, and useful solutions for the Warfighter. Based on that experience we recommend the following approach to addressing the problems posed here.



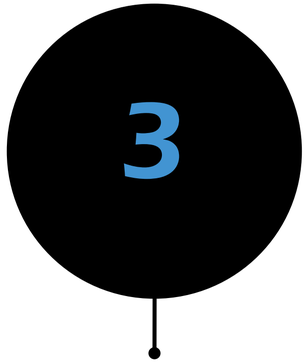
OPEN

Do you have an SDK? An API?
Can I integrate without you?
Can I connect my own data?
Can I customize the UI?
Do I need a license key?



ENTERPRISE TO THE EDGE

Everywhere … All the time …
Get it to “the cloud”!
Is it available to the edge user?
Can I access it in theater?
Is my data/operation secure?

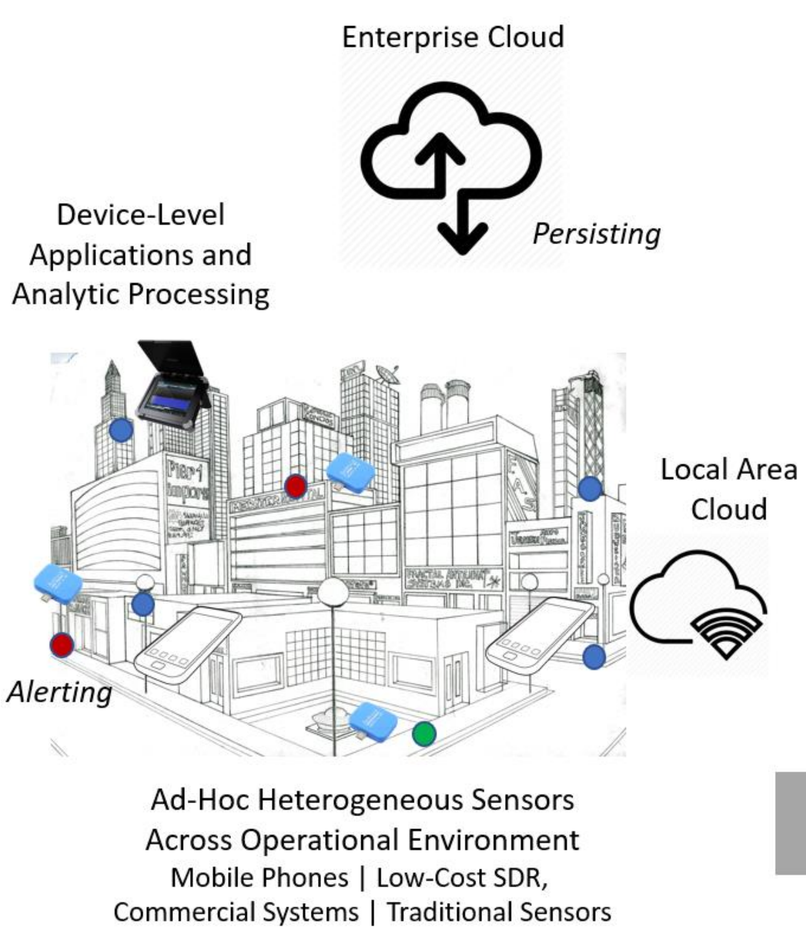


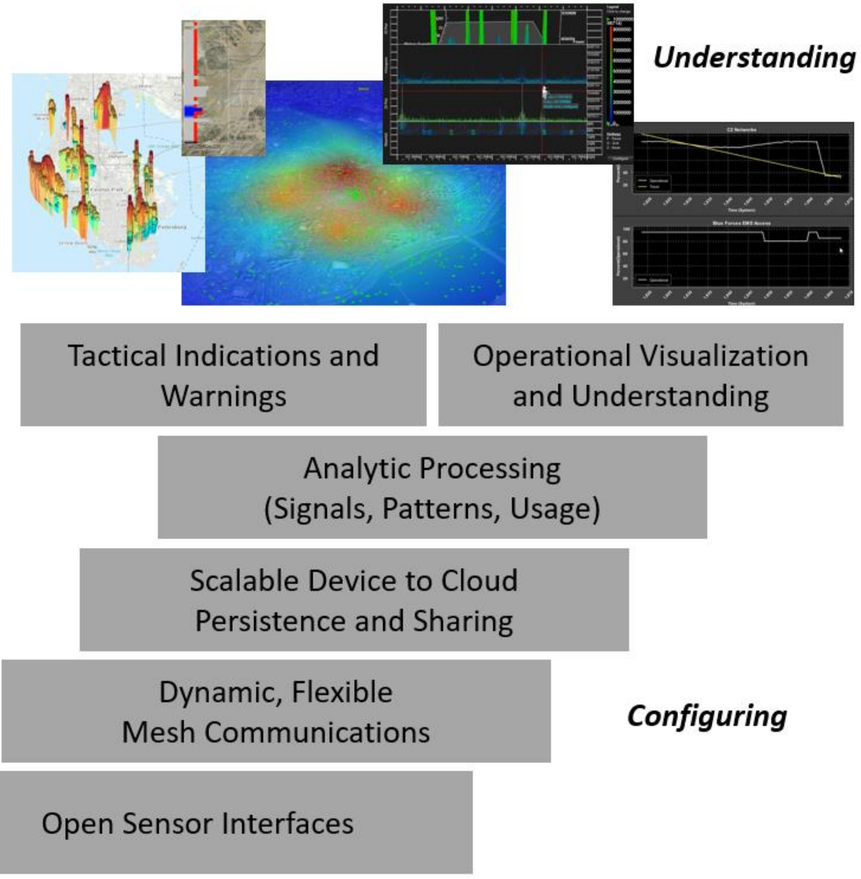
RAPID

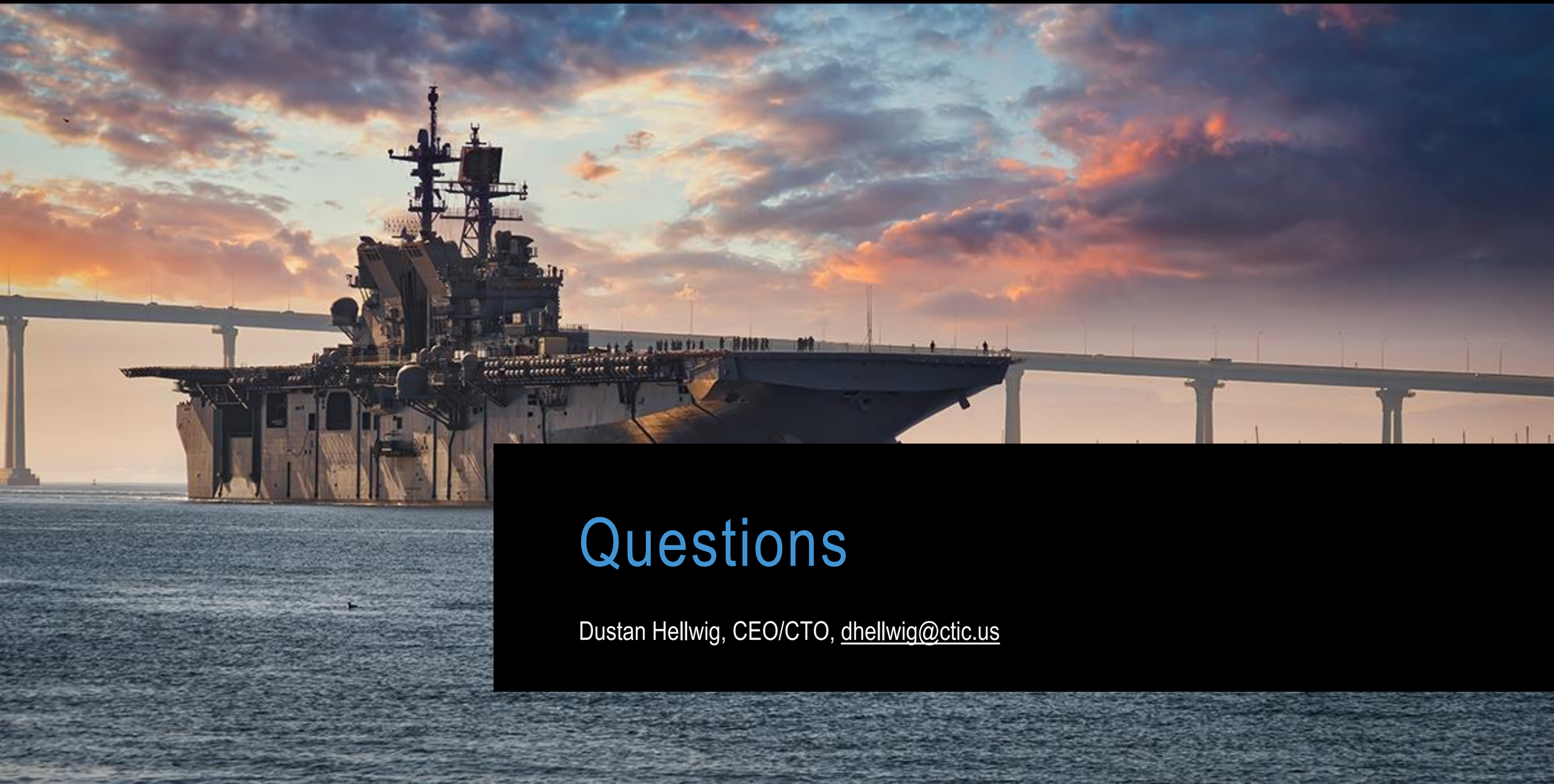
Can I have it now?
Can you upgrade it “soonest”?
Can I get training?
What does it work with?
Do you have an ATO?

All-Domain JEMSO

In order to gain awareness and understanding of the spectrum environment we must do better at observing and applying environment and perspectives to our presentations to the Warfighter and decision maker.







Questions

Dustan Hellwig, CEO/CTO, dhellwig@ctic.us