

From the Crows' Nest: The State of Directed Energy

In the latest episode of From the Crows' Nest, host Ken Miller talks with Christopher Berry, principal engineer for the directed Energy Weapons program in the office of the Undersecretary of Defense for acquisition and sustainment, the Electronic Warfare Director about directed energy. Below is a snippet of their conversation.

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Ken Miller: There's been a lot of milestones last year and what you're looking for. What are some of the other milestones in the past year in 2022 that caught your attention in terms of the progress that directed energy has made?

Chris Barry: I think one of the highlights for me in this past year was in February we were able to shoot down two surrogate cruise missiles at White Sands Missile Range with what's called the Layered Laser Defense System. That was a couple years coming together, A very compact laser weapon system of the Navy helped invest into with IRAD from Lockheed Martin. And it shows the first time we've been back to the point of taking out these very fast, very hard targets since the nineties and that's a pretty big milestone for the DE community as a whole as we look towards making sure we're building weapons that are relevant to today's fight, are relevant to the kinds of targets that the war fighter needs to be worried about. So to grow from that demonstration into the capabilities on multiple other programs I think is going to be very important in the coming years.

Ken Miller: One of the frustrations I think over many years

has, and you alluded to this earlier, was this notion of kind of transitioning out of the lab. There seemed to be a lot of advances, but it was kind of stuck in the lab and you know, wanted to get directed energy into the field. There was some early success with some Navy programs several years ago, but now you mentioned the operational success. Could you talk a little bit about from your... You've been involved in directed energy now for 20 plus years, you've seen it, the successes and frustrations of the lab, you've seen the transition and now some of the successes in the operational out in the field. Could you talk a little bit about how that has changed the way that we look at directed energy in DOD now that we have operational success to hang our hat on a little bit, and what effect has that had on the work going on in the lab in terms of what's in the pipeline?

Chris Barry: Right. I think the typical directed energy lab scientist that you would imagine in almost a meme setting is in his laboratory. He cares a lot about what he's developing and wants to make sure that he hits some metric of power or energy in his output and that should affect something in the field and he's excited about that. What we're at today is now taking that same person, putting him sitting next to a war fighter who says, "That's nice, but I can't turn these seven knobs to make that thing do what I need to do. Help me get to a place where I've got a single button I can push." And we're doing that. We've reached a point across. Again, all these prototypes have war fighter interfaces that are designed based on feedback from those war fighters and are working through the process of being really capable in the field under reduced manning, not a PhD physicist operating it, but an E-2, and E-3 enlisted person operating the system has been that transition over the last couple years and it's really helped us to add a whole other depth of dimension into our development process. So we have to think about things differently. We have to go out and get this feedback from the war fighter and it makes the product better, it makes the product closer and ultimately

exactly what the war fighter needs.

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