

22 Trent DePersia is our deputy division head for our  
23 command control interoperability division, and again  
24 across the theme of what we've heard today, what we  
25 heard in terms of the ESRIF report, the idea of the

149

1 importance of interoperability and how we communicate  
2 across is so important in the adaptation of technology  
3 to meet and enhance security issues. So I think that  
4 all of the technologies that we develop, ultimately how  
5 it fits into a structure, an operational structure, and  
6 how we're able to communicate across many different  
7 domains is very, very important. And it's a central  
8 focus for the C2I division, so I think Trent will also  
9 have a lot of things that will resonate well with our  
10 discussions today.

11 MR. TRENT DePERSIA: Thank you, Starnes, and thank you  
12 for the opportunity to be here and intermingle and talk  
13 with folks. It's a pleasure. The division, the Command  
14 Control and Interoperability division, is one that  
15 crosses many domains. There are aspects of what we're  
16 doing that touches on all of these other divisions as  
17 well as addressing a lot of things that have been  
18 discussed already today by various speakers. The kinds  
19 of things that worry or concern me, I'll summarize it as  
20 addressing the continuum of information issues. How do  
21 we acquire, how do we manage, how do we analyze, how do  
22 we share, and how do we secure that information? We're  
23 not necessarily developing all of the acquisition  
24 devices or management devices. In fact, we're relying  
25 on others to do some of those things. But in the

1 analysis side there are certainly a number of different  
2 things that need to be done better to help provide the  
3 information that's actionable, that can get to the end  
4 user and make it usable to them. Sharing has to do with  
5 moving information from one person to another, from one  
6 system to another, as well as communications  
7 interoperability, voice communications. And, in fact,  
8 we have one of the radios that we are developing  
9 inoperable, but it's downstairs and we're in the process  
10 of testing and evaluating that multiband radio. And  
11 securing the information either through encryption of  
12 the voice communications or cyber security, a whole  
13 'nother area that we're focusing on. And all of these  
14 issues really are necessary, I believe, to provide the  
15 security and safety for the communities, for the  
16 regions, for the nation, for international use. But  
17 there's many more than technology pieces. There are  
18 standards, there are policies, there are governance  
19 issues. Again, things that have been talked about and  
20 discussed already today. And we look at these through  
21 our interoperability continuum to make sure that we're  
22 not ignoring some aspect of the technologies that we're  
23 either developing or trying to use in a different way so  
24 that it's impossible to use or the training is too  
25 difficult to use or there are governance or policy

1 issues that we now have to make some adjustments to to  
2 make sure they're usable. The promising technologies?  
3 Well, I mentioned one of them: The multiband radio.  
4 It's a radio that is in a small handset that's a typical  
5 radio that's available today, but it has the ability to  
6 go over all of the frequency bands that are available,  
7 at least that we're using in the United States. From  
8 approximately 140 megahertz up to 870 megahertz, it has  
9 the ability now to be interoperable with all of the  
10 various components, be it the federal level, the state  
11 level or the local level, and including some of the  
12 defense-oriented communications.

13 Another promising area is visual analytics, primarily  
14 work that we're doing through our National Visualization  
15 and Analytics Center, or NVAC, that is established  
16 within the university-based and some industry-based or  
17 lab-based entities in the United States, as well as  
18 working with some of the international universities to  
19 establish a more robust, longer term research capability  
20 that will enable U.S. to provide information again that  
21 is actionable. An end user has only so many senses and  
22 the ability to assimilate and use all of that  
23 information, so we're trying to develop the tools  
24 necessary for them to understand what is really  
25 happening at any given point of time.

1 All of the efforts that we have or we're pursuing are  
2 practitioner based. That is, we're working with the end  
3 users, as was mentioned a little bit already, to make  
4 sure that we're not developing a technology because a  
5 scientist likes it or an engineer likes it. And as also  
6 part of this we're trying to make sure that each one of  
7 these technologies are tested or evaluated in a pilot to  
8 make sure that, again, the technology is usable. The  
9 button on a radio may not be in the right place because  
10 the fireman can't use it. His gloves are too big. We  
11 may not have thought about that during our planning  
12 stages, but bringing it into the pilots and  
13 demonstrations, we'll know early enough in the process  
14 so we can make those adjustments. And if we don't make  
15 those adjustments, if the button, for example, is in the  
16 wrong place, it won't be used by the end user, which  
17 means that our technology will not have a successful  
18 transition into practical use. Something further down  
19 the road that was kind of touched upon already is  
20 anomaly detection. What information is there that just  
21 kind of sticks out like a sore thumb but we don't see it  
22 as a sore thumb? How do we make it, again, actionable  
23 information? It's a long-term technology area that  
24 we're just trying to get more involved in. So that's  
25 what I would call a promising technology of the future.

1 Take-aways: I think I'd like to leave you with the  
2 thought that we're looking at it from a holistic  
3 perspective, that we're looking at using systems that  
4 are available today, not necessarily just improving or  
5 developing new technologies. Again, points that were  
6 made earlier today. We're building on successes of  
7 things that have worked. We're building on the  
8 unsuccessful things so that we don't keep making the  
9 same mistakes and making sure that the technology is  
10 usable and viable. We're trying to evolve all of these  
11 and to make them into an interoperable environment so  
12 that all of the pieces of information can be used and is  
13 practical.

14 We're also looking at more collaboration, not only  
15 within the folks within our own division, within our  
16 country, but internationally. The NVAC, the National  
17 Visualization Analysis Center, for example, is an entity  
18 that I had mentioned we're working with a number of  
19 universities internationally based. The multiband  
20 radio, while it may not have the significant impact in  
21 the European community, because of how the spectrum is  
22 used here, it does have an impact on our borders on the  
23 Canadian border and the Mexican border. Cyber security  
24 certainly is another issue, and there have been a number  
25 of things that we've worked on with the oil and gas

1 industry, for example, or the domain name system  
2 security. So there's issues and challenges that we're  
3 working there in collaboration. And just in general to  
4 look at the practitioner driven approach for the  
5 collaboration across the international boundaries, to  
6 make sure that we address all of the technical issues as  
7 well as the cultural issues, to make sure that  
8 technology finds its home in everyday life for all of  
9 the folks in public safety helping U.S. to protect our  
10 homelands. Thank you.

11 DR. STARNES WALKER: Thank you, Trent.