



## Show 11

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CORINNE KOVALSKY: Hello, I'm Corinne Kovalsky.

JOHN PATTERSON: And I'm John Patterson and welcome to a special AUSA edition of Dual Band.

CORINNE KOVALSKY: On today's podcast, retired Army Lieutenant General Gene Blackwell drops by to give us his assessment of where the Army might be headed post-FCS.

JOHN PATTERSON: We'll also learn more about helicopters situational awareness and get an update on the war fighter focus training program. When we come back, Gene Blackwell.

### **Gene Blackwell interview begins at 00:56**

CORINNE KOVALSKY: We are back on Dual Band, and we are talking today with Gene Blackwell, Vice President of Business Development for Raytheon's Network Centric Systems business. Gene, welcome to Dual Band.

GENE BLACKWELL: Thank you.

CORINNE KOVALSKY: Let's start off by talking about some of NCS's business priorities.

GENE BLACKWELL: Our priorities are ideally aligned with what the Army's priorities are. You've seen a tremendous amount of energy this week at AUSA and I think that you can understand what Network Centric Systems is about in terms of developing commanding control sensing systems and network solutions for our military customer. Specifically the United States Army is well aligned with what the army has been talking about this week.

JOHN PATTERSON: Gene in a post FCS environment how can industry contribute to the evolution of the Army.

GENE BLACKWELL: Well industry has to be actively engaged with the Army to listen, to understand the evolving requirements and to offer affordable solutions. We

have to collaborate across our company, across industry with partners and suppliers and we need to collaborate and partner with the Army especially the soldier.

JOHN PATTERSON: So Gene what is Raytheon's play here?

GENE BLACKWELL: Well over the last several years Raytheon has been very very involved in what was the future combat system. We have provided, in a vehicle agnostic environment, a number of mature technologies and solutions that can be applied for current and future force needs, such things as netted sensors and systems on ground platforms that reduce the time to target and improve situational awareness. We also have been involved in command and control systems, systems that have been battle proven such as AFATDS and JADOCs that provide unified battle command capabilities and enhance the situational awareness of the commanders and the soldiers on the battlefield.

CORINNE KOVALSKY: Gene let's talk about MAINGATE. How are you using it for the Army's advanced expeditionary warfare exercises?

GENE BLACKWELL: Well MAINGATE is the first entirely new system in more than a decade that provides interoperability across different networks, utilizing a high data rate called Monae which is Mobile Ad-Hoc Networking. We are also providing an Ad-Hoc wireless network for the Army's advanced expeditionary war fighter Experian. This network architecture provides interoperability for existing and emergency battlefield systems independent of their network access radio. This puts Raytheon in the unique position of being able to rapidly integrate new and emerging technologies for the Army.

JOHN PATTERSON: All of the services are keen on information in battle. For the Army that's provided through RSTA mission capabilities or reconnaissance, surveillance and target acquisition. Gene, how is Raytheon helping the Army there?

GENE BLACKWELL: Well we have a number of airborne and ground-based systems including sensors on ground combat vehicles, portable systems and elevated surveillance systems such as the mast mounted sensor. Over the summer we have been demonstrating improved network lethality and reducing the time to target capability by networking and integrating fielding and emerging systems to provide tactical situational awareness.

JOHN PATTERSON: You had a distinguished army career so I am guessing you have many personal stories about how non-commissioned officers make a difference every day. Gene could you tell us what the NCO means to you?

GENE BLACKWELL: I would tell you from my perspective they are the very lifeblood of the Army. During my 31 years I can recall countless experiences of seeing non-commissioned officers, junior grade non-commissioned officers, to the most senior non-commissioned officer perform in heroic manners that just leave you breathless. Non-commissioned officers who are willing to, quite honestly, sacrifice themselves for the good of the mission, for the good of their men and

that has become the hallmark of the non-commissioned officers.

JOHN PATTERSON: We've been talking with Gene Blackwell, Vice President of Business Development for Raytheon's NCS Business Unit. Gene thanks for dropping by Dual Band.

GENE BLACKWELL: My pleasure, thank you.

JOHN PATTERSON: Corinne and I will be right back.

**Michael Scrofano interview begins at 05:57**

CORINNE KOVALSKY: Joining me now on Dual Band is Michael Scrofano, a program Director for the emerging program area of the Space and Airborne Systems business and he's here to talk about ADAS today. Michael let's start with the obvious question. What is ADAS?

MICHAEL SCROFANO: ADAS is an advanced helicopter situational awareness system designed to bring real time 360 degree cockpit navigation capability to the rotary wing pilot.

CORINNE KOVALSKY: So how would that work?

MICHAEL SCROFANO: The pilot wears an advanced helmet that has a high definition helmet-mounted display and an optical head tracker, so that when the pilot is flying and having natural head movement the system is able to determine where the pilot is looking in space and bring them high definition imagery of the environment outside of the aircraft.

CORINNE KOVALSKY: That obviously must have an impact on his situational awareness and improve it for the war fighter. Can you talk to me about that?

MICHAEL SCROFANO: Yes. Raytheon has conducted over 120 hours of flight-testing with this system and we have flown over 100 active aircrew members to date. And the reaction that we typically get, are simply wow, I can do things and see things that I could not do or see prior to flying a helicopter in the distributed aperture environment. It's much like sitting in a glass cockpit where you have the ability now to see through the walls of the helicopter, look in front of you, below you, above you and behind you with natural head movement and no lag. So the things that are happening in real time outside are the same things that you are seeing in your helmet without a difference between what the imagery is and what you would actually normally see with your eye.

CORINNE KOVALSKY: What would be involved in creating something like that? I would imagine that you have a lot of sensor work that you would have to do to give them that situational awareness?

MICHAEL SCROFANO: Over the last nine years Raytheon in partnership with BAE Systems has done an extensive focal plane and advanced helmet mounted display development program to bring the beyond HD image sensors which are stitched together around the aircraft to bring you the 360 degree situational awareness

and the advanced helmet mounted display technology, which enables the pilot to view their world in beyond HD.

CORINNE KOVALSKY: Now you got this contract initially about a year ago. Can you update me on where we are with it now?

MICHAEL SCROFANO: We have now seen the second award of the extension of the joint capabilities technology demonstration. The contract we are now calling JCTD-2 to add additional advanced situational awareness features to the baseline distributed aperture system.

CORINNE KOVALSKY: What would some of those be like?

MICHAEL SCROFANO: Think of it like this. When you're flying in an imaging system that is able to look around you in a persistent manner at all times, you can add additional features beyond your objective pilot capability. To date the features that we are going to be adding are things like autonomous infrared search and track and collision avoidance. Brownout landing aided capability and of course a significant war fighter need today is hostile fire indication. Those things are all being added to the baseline distributed aperture system under this follow on contract.

CORINNE KOVALSKY: So Michael who is the customer for ADAS?

MICHAEL SCROFANO: The distributed aperture joint capabilities technology program is funded through the Office of the Secretary of Defense. The Army night vision labs in Fort Belvoir Virginia is the Technical Manager of the Program and the end customer for this is going to be both Green Army and Special Operations Rotary Wing Pilots.

CORINNE KOVALSKY: We've been talking with Michael Scrofano from Space and Airborne Systems at Raytheon. Thank you Michael for your time.

MICHAEL SCROFANO: Thank you very much.

CORINNE KOVALSKY: We will be right back on Dual Band.

### **Mike Edwards interview begins at 10:07**

JOHN PATTERSON: Training is becoming a bigger part of Raytheon Company and joining us now on Dual Band is Mike Edwards who is the Vice President and Program manager for the War Fighter Focus Program from Raytheon Technical Services Company. Mike thanks for joining us.

MIKE EDWARDS: Well thanks John. I am happy to participate.

JOHN PATTERSON: What is Warfighter Focus and Raytheon's involvement in the program?

MIKE EDWARDS: War Fighter Focus is the US Army's premier service support program which actually integrates the three training domains which are known as live, virtual and constructive under one program. The purpose of this was to

improve and maximize war fighter readiness. We are the prime contractor for War Fighter Focus but we don't do it alone. We have a consortium of over 100 sub-contractor teammates that are actively engaged with us on a daily basis in providing worldwide service support to our soldiers around the world. We are currently deployed at over 500 sites around the world both in the United States and Internationally.

JOHN PATTERSON: Training is so important, particularly good training. How do you make it real?

MIKE EDWARDS: There are several things that we do to make it real. The world of training in today's environment as you can imagine is very very dynamic. An example of that is a call will come in from Iraq, come in from Afghanistan into the National Training Center and they will call in and say okay the change that occurred today in the operations in IED capabilities or what we are seeing in IED's from the enemies have evolved and changed so we need to change the training scenario to better prepare our soldiers for what we are seeing. The other things that we do to improve fidelity the whole goal is to create a realistic training environment. You'll often hear that we want to immerse our soldiers in a realistic training environment so what we do is we prepare as best we can the visualization and the immersion of what the soldiers are going to be. For example we prepare the villages to look, sound, feel like what they are going to see when they go into battle to include the civilians on the battlefield. The language, the dress, the mannerisms, the shops, everything is very real from a fidelity perspective.

JOHN PATTERSON: So what kinds of feedback are you getting from the folks you are training?

MIKE EDWARDS: The real testament comes when the soldiers come back to the training environments and they say I've seen that before. I saw that before I went to the actual theater. I trained here and I was prepared before I actually went to battle. That is the true testament of our training.

JOHN PATTERSON: Where is all this headed, Mike. Do you see Raytheon becoming an even bigger player in the training business?

MIKE EDWARDS: This is an example of a very very innovative way to contract that the Army has undertaken. It is a consolidation of all training in all domains. What we see is an interest from the other services in doing the same or similar type things so I think what we are going to see in years to come, the other services will probably adopt this multi-faceted multi-domain training under one contract vehicle.

JOHN PATTERSON: Mike Edwards from Raytheon Technical Services Company. Thanks so much for joining us on Dual Band.

MIKE EDWARDS: It's my pleasure.

JOHN PATTERSON: Well Corinne AUSA 09 will soon just be a memory. What's next?

CORINNE KOVALSKY: John you and I will be in Orlando next week for the grand opening of the Sum Of All Thrills. A collaboration between Raytheon and Disney.

JOHN PATTERSON: That's right. Our next Dual Band will focus on our work with Disney and that new ride at Epcot. I want to be one of the first to try it out. I think I am going to design my very own I don't know what. I have some choices don't I?

CORINNE KOVALSKY: You do. You can design a plane, a roller coaster or a toboggan ride.

JOHN PATTERSON: Sounds great.

CORINNE KOVALSKY: But whatever happens I'll wave to you from the ground John. Hey listen before we leave D.C. lets play tourist and visit some of the monuments. It's one of my favorite things to do in Washington.

JOHN PATTERSON: Excellent idea. Until next time if you'd like more information on anything you've heard today please visit us online at [www.Raytheon.com](http://www.Raytheon.com), key word Dual Band. You can also e-mail us at DualBand one word at Raytheon.com.

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