

3 PROF. BENGT SUNDELIUS: And I give you Thomas Cellucci.
4 DR. THOMAS CELLUCCI: Good morning. It's a real
5 pleasure to be with you here today. Maybe I should
6 start by way of background. I have the great fortune of
7 being in the private sector myself for over 20 years
8 as a president and CEO. But I've also been very proudly
9 a first responder for over 30 years. It's been a great
10 pleasure, particularly yesterday, for me. So many of
11 the European first responders that are here with U.S..
12 I'd like to acknowledge their presence as well as the
13 presence of all the first responders that are joining
14 U.S. via the internet. And now in my role as chief
15 commercialization officer I have been able to work in
16 the public sector, and it's been very interesting, and
17 I've been asked today to give a very broad overview of
18 the structure and operations organizationally of the
19 Science and Technology Directorate. I will also put it
20 in perspective of the entire department, and tomorrow at
21 the plenary session we will talk in detail about what
22 Marco mentioned about commercialization and innovative
23 public-private partnerships. But if I could be so bold
24 as to give maybe reading homework, you could look on the
25 DHS website. Simply go to www.DHS.gov. Look up "doing

1 business with DHS" or "commercialization" and you can
2 find the five books, the 21 articles and, yes, even the
3 movies we have produced to talk about doing business
4 with DHS. In fact, I leave this first PowerPoint up.
5 People often ask me -- I've been asked many times since
6 we've gotten here -- how do I begin, where do I start
7 about looking at opportunities to work with DHS. Please
8 send me an email to just say, Tom, please send me a full
9 response package. And what that will be is a very
10 detailed brief or presentation called "Opportunities For
11 the Private Sector in Public." It's for both private
12 sector organizations as well as universities, national
13 labs, et cetera. A listing of our high priority needs
14 from the department; and, thirdly most importantly, a
15 vehicle by which you can tell U.S. about your
16 technologies, products, services and how they relate to
17 our needs, which goes into a large repository that is
18 viewed by anyone at the Department of Homeland Security.
19 But to follow up on what Marco was saying, I'd like to
20 give you a very broad overview of Science and Technology
21 Directorate. If you know anything about the Department
22 of Homeland Security, there are over 216,000 employees,
23 many organizational elements. Science and Technology is
24 one organizational element like many others who are
25 there to enhance, support and enable the mission

1 critical objectives of what we call the seven operating
2 components of the Department of Homeland Security. And
3 these are the organizations you're familiar with.
4 Perhaps you're seen on television the Coast Guard, the
5 Secret Service, TSA, Customs/Border Protection, et
6 cetera. So, again, Science and Technology is an
7 organizational element within this 51 billion U.S.
8 organization to enhance, support and enable the mission
9 critical objectives of the seven operating components.
10 But what you need to bear in mind when we talk about the
11 Department of Homeland Security is we're not only
12 responsible for the seven operating components; we're
13 also responsible for other stakeholders. Namely,
14 through the office of Infrastructure Protection, we're
15 responsible for the 18 sectors that comprise the U.S.
16 economy. You know them: Transportation, banking and
17 finance. And one of our division directors, Chris
18 Doyle, I'm sure will talk to you in some of the breakout
19 sessions about some of the special needs of the private
20 sector.
21 We're also responsible for the massive amount of first
22 responders. People are surprised to hear it, but when
23 you do a detailed analysis there are over 25.3 million
24 first responders in the United States alone. This is
25 comprised of what we call the front line: Police, fire,
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1 emergency medical technician, and bomb disposal. But
2 then there are what we call backup first responders.
3 And basically, as you'll learn tomorrow,
4 commercialization has become very popular because of the
5 fact that commercialization really deals with the
6 generation of markets and the production and deployment
7 of products and services to meet those needs of the
8 markets. When you amalgamate or start collecting how
9 many people are represented, are potential users in the
10 seven operating components, the private sector itself,
11 critical infrastructure key resource owners and
12 operators -- we call that particular market -- as well
13 as the, as I said, the first responder, when you
14 amalgamate these DHS stakeholders, these markets become
15 quite large. And what we have found, time and time
16 again, is the private sector is ready, willing and able
17 to assist U.S. using their own resources to get
18 sustainable business opportunities. So currently we're
19 developing 43 products and services, using the
20 commercialization model, in much shorter time than
21 governments normally develop. And we'll talk about that
22 in detail tomorrow. But I'd like to share with you from
23 a strategic level how the S&T directorate determines and
24 prioritizes unsatisfied needs and wants, and that's
25 through what is called the Capstone Integrated Process

1 team. To those of you from the private sector, this is
2 going to look like part of a marketing plan, and that's
3 exactly what it is. It's a vehicle by which to work
4 together to understand the unsatisfied needs and wants
5 of these stakeholders, but to Marco's point, most
6 importantly, do something about it. Unlike so many of
7 you who are young and full of hope, I am old and full of
8 other things, and I learned a long time ago in business
9 that you need to keep it easy and make it simple to
10 understand. So what we are working very hard at at the
11 department is not only giving you high level capability
12 needs but working on detailed operational requirements.
13 And it's been our experience, if we give you detailed
14 operational requirements, coupled with conservative
15 estimate of market potential, that's the information
16 that you need so that you can determine whether or not
17 there's a business case for you. I will tell you the
18 good news is the opportunities abound at DHS in the
19 United States. And as Brad Buswell, our Undersecretary,
20 mentioned, we don't care where it comes from. And as
21 Marco said, S&T has no boundaries geographically. But
22 the competition is becoming stiffer. Because of the
23 economic uncertainty that we live in today, governmental
24 markets have more stability in many ways than commercial
25 markets. Competition is very tough. I will also say
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1 and just share with you, give you some old man advice,
2 that you may get a lot of emails a day. I get about 600
3 emails a day, literally, and they all start pretty much
4 the same way: Dear Dr. Cellucci, we're the only company
5 in the world that does blank. If you receive that
6 600-plus times a day, that would become puffery to you.
7 So that's why I suggest you ask for the full response
8 package. You get an opportunity to show U.S. how you're
9 different. So getting back to the Capstone IPT,
10 basically good organizations or organizations that get
11 things done have a blend of strategic vision coupled
12 with the discipline to get things done. The discipline
13 to get things done is called execution. And you need
14 both of those. And you need to realize the Department
15 of Homeland Security is a fairly young organization. It
16 just celebrated its sixth birthday. Being the father of
17 six children, I can tell you that a six-year old is just
18 ready to go to primary school. So I'm not making an
19 excuse for the department. I'm saying that we're
20 growing up. And as we do we're learning to define our
21 requirements in more and more detail, which is going to
22 be beneficial to the scientist at a lab, to a CEO of a
23 company, et cetera. In terms of the organizational
24 structure, there are six major divisions. This is what
25 I would call the power and money base. These are the

1 people you're going to be interacting with at the
2 breakout sessions and other sessions, and you are
3 familiar with some of these divisions: Human factors,
4 borders, maritime, et cetera. So be very careful to go
5 and meet with these people and organizations and ask
6 them questions. We've heard a lot of talk already this
7 morning about things like situational analysis,
8 situational awareness, interoperability. Those are nice
9 words, but they're only words. We need to define in
10 detail what that means, and that's what we're now doing
11 at the department. It would not be truthful to say we
12 have detailed operational requirements for all of our
13 activities. Far from it. You have to start this
14 cultural process and we'll talk in more detail. But ask
15 people in detail, what is it that you specifically need
16 so that you can understand, because only by that
17 understanding -- as Marco commented, understanding what
18 the first responders need, understanding how a first
19 responder or someone on a border is going to use a
20 tool -- that's what's critical. So the power and the
21 money is held within those six divisions. Why? Because
22 these are the people to ensure that they understand the
23 unsatisfied needs and wants of their customers. The
24 three different stakeholders we just mentioned. The
25 seven operating components, the first responder

1 community and the private sector's critical
2 infrastructure and key resource owners and operators.
3 The division is run like a portfolio. Approximately
4 50 percent of the budget goes to transition, and
5 transition is basically short-term activities to get
6 technology, products and services in the hands of these
7 stakeholders. Another 5 to 10 percent of the budget
8 goes into what is called innovation. Innovation would
9 be analogous to disruptive and enabling technologies.
10 So these are things that have very high payoffs, but the
11 risk profile is different than in transition. There's
12 much higher risk, but the potential payback is great.
13 My specialty happens to be laser physics and
14 nanotechnology -- nanotechnology or MEMS --
15 biotechnology. Some areas would be considered
16 disrupting and enabling technologies. And then about
17 20 percent of the budget goes to basic research. These
18 are long-term programs and are the precursor to what we
19 call product realization. So those of you who are
20 involved in basic science, take heed and be satisfied to
21 know that research is critical, and when you look at the
22 materials I mentioned to you on our website, you will
23 find how basic research and technology development are
24 critical activities in the commercialization of products
25 and services. And then we have monies applied to
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1 administrative functions. Now, the kernel of activity
2 at a strategic level within the Science and Technology
3 Directorate led by Undersecretary Buswell is the
4 Capstone IPT process, and on the left-hand side you will
5 see graphically who the people are involved in this
6 process. At the top of this diamond is the customer.
7 That customer may be the Secret Service, for example.
8 To the right are S&T providers. In other words, people
9 in one of the six divisions we mentioned. Chem/bio,
10 human factors, et cetera. Then on the bottom you see we
11 bring in real users. So if we bring in the director of
12 the Secret Service, we will bring in Secret Service
13 agents because we want to understand the concept of
14 operations and we want to get the perspective of the
15 users. And on the left-hand side in the middle of the
16 diamond you see the people from DHS management,
17 acquisition, commercialization, to make sure that the
18 programs, vehicles, processes are put in place to enable
19 to execute a plan that may be developed. Currently
20 there are 13 Capstone IPTs within the S&T Directorate.
21 We have just added a Capstone IPT for the first
22 responder community. I can tell you that it's been very
23 challenging but also very gratifying to develop many
24 books and materials on developing detailed operational
25 requirements. And it's hard enough to do it in an
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1 organization like DHS. Imagine trying to gather and
2 prioritize the requirements of 25.3 million people just
3 in the United States alone. Then let's take it globally
4 to all first responders. It's a challenge. And the
5 good news is we've developed a process to start doing
6 this. In fact we just published a book dedicated to
7 first responders called "Delivering Solutions to the
8 First Responder Community." It's available on our
9 website.

10 So this in a real world way at the strategic level are
11 the Capstone IPTs that the S&T directors you will be
12 meeting with during the next two days are responsible
13 for. So it's a golden opportunity for you to meet with
14 these people and remember to ask them detailed questions
15 about what is it precisely they mean by a certain
16 capability they're looking for, because only when we
17 learn the details requirements can we deliver products
18 and services. To that end I know we have brought and
19 we've made available -- and this is one of the first
20 items you see in the full response package I've asked
21 you to send to U.S., to just drop U.S. an email -- this
22 is a ranking of the high priority needs of the S&T
23 Directorate which of course are representation of the
24 three DHS stakeholders we just mentioned. And I highly
25 recommend you get this booklet. Now, remember this is

1 at a high level. These are not the detailed operational
2 requirements. One of the things you should do is look
3 on our website for detailed requirements. They're being
4 worked on constantly. But also take this golden
5 opportunity, as others have suggested to you, to
6 interact and network with the division leaders while
7 you're here and they're here.

8 Again, I'd like to just end up by saying when you think
9 of the Department of Homeland Security, don't only think
10 about the seven operating components. While they're an
11 integral stakeholder of course at DHS, they're but one
12 of three, and the reason why, as you'll learn tomorrow
13 in a plenary session that we've dedicated to our
14 innovative public private partnerships through our
15 commercialization model, is the fact that the potential
16 available markets for so many of the products, services
17 and in fact technologies we need are cross-cutting
18 throughout DHS's stakeholders. This is real opportunity
19 for businesses, and that's why people are coming to U.S.
20 without the need for resources. It's not the only tool,
21 as Marco said. It's not a silver bullet. It's one tool
22 in a tool box, as we would say, an expression in the
23 United States. So there are three transition pathways,
24 if you will, for technology, products and services. We
25 have what I call the captive audience at DHS, which

1 would be the field agents. These would be the Secret
2 Service agents, Custom/Border Patrol Agents, TSA agents
3 that you may see. They don't get to choose what
4 software, what guns they use. They're told by their
5 departments. They're captive users. Then we have the
6 critical infrastructure and key resource owners and
7 operators. And finally we have the first responder
8 community. And I have had the pleasure of sharing the
9 joy of playing a little part in saving lives and helping
10 people, but more importantly I've shared in the despair
11 of going to a mother and father with a child that didn't
12 make it. And so I take helping the first responders
13 very personally. These are the people on the line every
14 day as we say, and I will tell you that so much junk --
15 and I use that word deliberately -- has been sold to
16 them. We need to give them the assurance that these
17 products and services work. So integral to all of our
18 processes as you saw on the diamond was T&E, test and
19 evaluation. Again, so many of you are young and full of
20 hope. I'm old and full of other things, and I learned
21 you don't get what you purchase. You get what you test
22 and evaluate first. So we are very big about tests and
23 evaluation, as you would want U.S. to be as citizens and
24 taxpayers. You want to make sure the products work.
25 With that, I'd like to thank you for your attention and

1 I look forward to meeting with you personally during the
2 rest of the conference.