

2 PROF. BENGT SUNDELIUS: Mr. Mate will present the  
3 findings of this important report as we referred to many  
4 times, and I have a personal relationship to this report  
5 as I was very much involved in the struggle over the  
6 text and the quarrel over the concepts and the struggle  
7 over where to put the comma and the period and what  
8 terms to use. So we struggled together. I'm very happy  
9 then to hear the findings and conclusions. Mr. Mate.

10 MR. DRAGUTIN MATE: First of all, I want to welcome you  
11 to the conference as everybody before has said. I'm  
12 very glad that I have opportunity to be with you today  
13 and share some findings that we created during last two  
14 years. First I must say maybe a few words about me that  
15 you will know my previous experience. I'm Dragutin  
16 Mate. I come from Slovenia and my background is quite  
17 interesting. I have military background and I have  
18 experience as the Minister of Interior in last four  
19 years in Slovenia. And formally it's during that I had  
20 some experiences of how to lead European community as  
21 presidency and some very interesting negotiations with  
22 American friends about [unintelligible] program during  
23 our presidency. All these exercises were very  
24 interesting and very useful for me personally.

25 I must say that I was not inside of ESRIIF from the very

1 beginning days. I come to the chairmanship of ESRIIF  
2 about year ago. Before me my Dutch colleague, Gijs  
3 de Vries, was in charge of ESRIIF, and I started to work  
4 after when we lost the elections in Slovenia and then I  
5 have the possibility to do that job.

6 We have inside of ESRIIF organizations which Monique  
7 very, very nicely expressed to U.S., but I must say that  
8 in the top of the organization we have a chair and two  
9 co-chairs, and my two co-chairs are Professor Giancarlo  
10 Grasso, senior advisor in Finmeccanica, from Italy, and  
11 Professor Jurgen Stock, the vice-president of the German  
12 Federal Criminal Police. From that part we are very  
13 interestingly organized even in the top of the  
14 organization.

15 I must say if I go further where Monique expressed how  
16 many people are working, and I'm not talking again about  
17 the numbers, I must say that that is a very unique  
18 exercise in Europe. Maybe in the world. I don't know  
19 any other exercise where so many experts, more than 600  
20 people, are working together from all different fields  
21 to find the answers. And what we are doing in ESRIIF in  
22 the last two years, we're dealing with security  
23 questions and we want to contribute through our work to  
24 a more secure Europe. But not only Europe, a more  
25 secure world and other areas. And what do I mean that  
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1 we want to contribute to a more secure Europe? We try  
2 to find the way how to more efficiently to use all our  
3 resources for innovation, research and at the same time  
4 including these results to the final industrial  
5 products. And we want to conclude the whole circle that  
6 we provide that final product to the end users.  
7 Industry must provide the best technology equipment for  
8 the end users that they can do the best job. As was  
9 mentioned before in the previous explanations, a lot of  
10 times the end users have the equipment, but it's not  
11 right or appropriate. And our responsibility is that we  
12 are doing that.

13 During our process we didn't search the balance between  
14 industry, innovation and research, and between the  
15 fundamental rights and freedoms that we have in Europe  
16 for open society and special respect to the data  
17 protection and so on. We didn't even try to do that.  
18 But we tried to find the way that innovation, research  
19 and industry will go further, but they will not anyhow  
20 offend our basic values what we have in Europe. And you  
21 know, my friends from the United States, that we are  
22 very sensitive on those questions in Europe, some  
23 countries even more than some others, but generally that  
24 is the issue in the European Union: The protection of  
25 data basis and fundamental rights and freedoms. Our  
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1 society, all our society in Europe, in the United  
2 States, is very dependent on our technological things  
3 and infrastructure as is our internet, public  
4 transportation, aviation, telecommunication and many  
5 others. With very small efforts, often using crude  
6 methods, it is relatively easy to disrupt the  
7 infrastructure that we use for our daily lives and  
8 disrupt our habits what we have and how we are living.  
9 At the same time we cannot ignore that are we are  
10 living, not only in Europe, but that we are living on  
11 the planet of Earth and that we must cooperate with each  
12 other, and at the same time that other problems that are  
13 around Europe have influence on our security. We  
14 listened yesterday in the conference to a lot of  
15 questions and the problems about moving people because  
16 climate is changing and so on. And all these things  
17 have tremendous influence on the security in Europe, and  
18 I'm sure in United States too. We tried to find the  
19 answers on all these questions and many others that I  
20 didn't mention here because we have so limited time to  
21 present our work. We tried to find answers. And we put  
22 our answers in the first part of the report that is  
23 already possible to see via internet, and you have an  
24 executive summary that you can pick up in front of the  
25 conference hall and you can see what is inside. And we  
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1 put the answers in three areas. We have made the key  
2 messages. We made recommendations. And we made I think  
3 the most important part: European Security Research and  
4 Innovation Agenda. We call it ESRIA. We are still in  
5 the process that we will finalize the visualization of  
6 the road map, and I will talk a little later about that.  
7 We see ESRIA taking a perspective for the next 20 years,  
8 and we want to provide the strategic concepts and  
9 practical processes too. It's not enough that we find  
10 out through our work that we are talking only about the  
11 threats and what we need in the next 5, 10, 20 years.  
12 It's not enough. We must have some answers for the  
13 problems what we have today already. And from that way,  
14 the ESRIA concept is talking about strategic concepts  
15 and practical processes too.

16 ESRIIF identified several years of key capabilities and  
17 research needs and organized these into five content  
18 clusters. The first cluster is security circle of  
19 preventing, protecting, preparing, responding and  
20 recovery. Basically that is focused on the security of  
21 the people, civil preparedness and crisis management.  
22 And you can see details about that inside of our report.  
23 The second cluster deals with the countering of  
24 different means of attack. We are very aware that we  
25 know some means of attack and even worse what could  
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1 happen that we have some unknown future risk, and  
2 unknown and known conventional possible attacks that we  
3 cannot even think today that they can happen, and we  
4 must deal with all these questions if we want to give  
5 the right answers in the right time for security.

6 The third cluster aims at securing critical assets such  
7 as energy, transport and other critical infrastructure,  
8 and we are specially attendant about the security and  
9 securing of our key manufacturing capabilities in  
10 Europe. All this is one circle and we must go much  
11 further than we are in this moment.

12 In the fourth cluster is about securing identity, access  
13 and movement of people and goods. As you know, one of  
14 the basic fundamental things in the European Union is  
15 free movement of people and free movement of goods, and  
16 that means a lot of problems for the people who are  
17 responsible for security. And we don't want the  
18 European borders, outside borders -- that means  
19 [unintelligible] borders -- to be as a wall to the other  
20 world. We must do all the best and find technologies  
21 who will help U.S. so that we can do our job and in the  
22 same time that we will be friendly and open to the other  
23 societies near to U.S.. we are in a little bit  
24 different position than our friends from the United  
25 States. They have two neighbors. One is a relatively

1 open border, if I say it that way. Another border is a  
2 little more problematic, but in other parts that you  
3 have seen. We have much more neighbors, and sometimes  
4 it is not easy to deal with old questions that we have  
5 and the Mediterranean Sea is not really the Atlantic  
6 Ocean. It's very easy to come from northern Africa to  
7 the first islands that are part of Italy. That is the  
8 shortest distance between Africa and Europe. The fifth  
9 cluster is cross-cutting enablers of special interests.  
10 And one of the special interests in Europe is security  
11 implications of European space programs. We are  
12 specially talking about that, and I think it's very  
13 important that we have that. However, this agenda  
14 cannot be employed without guiding principles, and for  
15 that reason we create the key messages. The key  
16 messages are so important that we can organize ourselves  
17 in right way and that we have all the time in front of  
18 U.S. what are our main goals. Enhancing the social  
19 security is a means to respect and build up European  
20 social values and individual liberties. That is the one  
21 very important point that I actually raised a few times  
22 today. We cannot protect completely against each and  
23 every known and unknown threat or those that maybe exist  
24 today or in the future. We must be aware of these.  
25 Nevertheless we need to build strong protection against  
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1 some clear and present dangers. That we must do right  
2 now. We need also to prepare our society for facing the  
3 effects of any yet unknown dangers. The public can  
4 understand that we are not fully prepared for  
5 everything, because we don't know what can happen in  
6 some cases in the future. But it would be unacceptable  
7 in Europe and the United States not to be ready for the  
8 quick, efficient recovery under any circumstances. That  
9 means that we need the special concepts, and we say that  
10 we need the concept of social resilience against any  
11 kind of impact. A key for this resilience is the  
12 building of trust between the public and government  
13 institutions. The resilience of critical infrastructure  
14 is obtained through interoperability in all aspects.  
15 The benefit of new technologies developed is a  
16 systematic approach to capabilities developed across  
17 Europe, and that is the true point if we want to be  
18 successful in that field. The resilience of emergency  
19 organizations needs to be assured by means of  
20 operational interoperability. And they must do it  
21 through education and training, and we must look forward  
22 so that we will have a similar educational process and  
23 similar training in all member countries inside of the  
24 European Union. In that way we can easily react on the  
25 threats that we have on the border areas between member  
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1 countries.

2 Europe has a strong industrial capability and knowledge  
3 base about that but represents a fragmented security  
4 market. Our market is too fragmented in different  
5 places. Common efforts and research to develop  
6 solutions for a more European security market are needed  
7 supported by as we call European industrial policy.  
8 This industrial policy should encourage innovation. At  
9 the same time security must be integrated by design in  
10 the earliest stage of system designed processes. A lot  
11 of times we have situations where the end users and  
12 innovations and everything are not connected in the  
13 right way and that we are not connected in the beginning  
14 of the processes. That is necessary if we want to have  
15 the right equipment and if we want to have then the  
16 right responses. We recommended, because we must make  
17 some recommendations in our field, and we conclude our  
18 report with recommendations for achieving stronger  
19 security research and innovation results. The  
20 recommendation encompassed the following themes. Common  
21 European capabilities, new policy initiatives, an  
22 integrated approach to security, the global dimension,  
23 the future of security research. We put inside of these  
24 five areas all different recommendations. We have a lot  
25 of different recommendations that if I start talking  
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1 about that we will then lose the lunch and everybody  
2 will be angry at me. Just give me the opportunity to  
3 say just one recommendation that we put. I chose  
4 something maybe somebody will not be very happy with,  
5 because we always must be talking about money too.  
6 ESRIA recommended that you maintain the current rate of  
7 growth of security research program with the aim of  
8 reaching the annual budget of 1,000,000 Euros, and we  
9 recommended the national programs. That means the  
10 national programs of all 27 member countries should  
11 reflect this degree of ambition. I know that in a time  
12 when we have recession that it's a very ambitious  
13 proposal, but we believe that we must go further in that  
14 area too.

15 I have given you a very brief overview of the main  
16 conclusions of ESRIIF, what we have been doing in the  
17 last two years. We have inside of our work 11 working  
18 groups. You can find the contribution of those 11  
19 working groups inside of all different parts of the  
20 ESRIIF report. You have a short four-page executive  
21 summary that you can read where also you have a complete  
22 report of the first part of our work, about 40 pages,  
23 and that is possible to see in our internet page. But  
24 we are still preparing and finalizing the road map. The  
25 road map is the huge matrix with research priorities.

1 We will create visualization of that road map, and that  
2 will be easy for the decision-makers to see what we  
3 believe are the research priorities in the next 10,  
4 20 years. All these reports will be concluding in the  
5 next weeks, and I believe that it will be possible to  
6 see that report in the end of this year.

7 Ladies and gentlemen, if I briefly conclude my speech, I  
8 think that ESRIIF prepared complex answers for the  
9 challenges that we have in front of U.S.. I believe  
10 that with this report we give the answers that  
11 decision-makers, especially politicians, in all levels,  
12 in European Parliament, in European Commission, in the  
13 level of counsels -- that means the member states, the  
14 ministers -- as well in industry can make the right  
15 decisions for a more secure Europe. And if Europe is  
16 more secure, then our friends in the United States are  
17 more secure, and if we are more secure, I believe the  
18 world will be more secure. Thank you very much.

19 PROF. BENGT SUNDELIUS: Thank you very much. Have a

20 seat and we will continue the dialogue. And this report  
21 is on the table outside for those of you who want to get  
22 into details. In any good seminar we have a discussant.  
23 Dr. Starnes Walker has agreed to be the first discussant  
24 to have some reflections on the findings, priorities and  
25 also put them in perspective of the U.S. perspectives.

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1 Are there different priorities, commonalities and so  
2 forth. Dr. Starnes Walker, director of research, DHS.  
3 DR. STARNES WALKER: Well, it's a pleasure to be here,  
4 and I think what strikes me as being embodied within the  
5 ESRIIF report first of all is within the word itself, and  
6 that's research and innovation. There's a common ground  
7 across the sciences that looks at discovery, invention  
8 and how it applies to the world we live in today. And  
9 with the security environment that we have in this world  
10 and the evolving threats, those threats can be of course  
11 as stated by our speakers today both in man-made and  
12 natural disasters. So we have tried to look at the  
13 framework in a very similar way within the Department of  
14 Homeland Security as is embodied again within the ESRIIF  
15 report, and it strikes me as I looked within the first  
16 cluster of security cycles of preventing, protecting,  
17 preparing, responding and recovering to these threats,  
18 embodied in that of course is the science that we look  
19 at and say what are the strategic areas of investment  
20 that are important that we can nurture? I'm also  
21 reminded that many discoveries occur over very long  
22 periods of time so we have to distill these efforts into  
23 some strategic focus areas. I'm very pleased to say  
24 that within DHS S&T we've spent a great deal of this  
25 year to try to bring this to more of a focus area. In  
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1 fact we have just published the focus areas for research  
2 that is available on our website and to kind of overlay  
3 against this threat matrix that we have in front of  
4 U.S.. the ESRIIF report talks about the importance of  
5 interoperability, and I'm reminded, in early days of  
6 research that I was involved in, and many of U.S. when  
7 we started our research careers in science, the  
8 importance of relating it to operation tactical type of  
9 capabilities and the feedback that you have between that  
10 operating environment to the researcher in the  
11 laboratory. And it's important to have that so that  
12 you're always looking at an observation of the science  
13 and how it relates to the real world and the  
14 applications. I think one of the really valuable tools  
15 is that as the agenda is developed for ESRIIF, that the  
16 utilization of things like operations research to work  
17 downward into what is the problem you want to address,  
18 what is the underlying science that we understand today,  
19 what are the key components we wish we had and how you  
20 do you move forward from there. You then have to work  
21 across the science communities, and of course in this  
22 case, because we're dealing with the human aspects, this  
23 includes the physical sciences, the human behavioral  
24 social sciences. There's an integration across these  
25 fields that is much more encompassing than you've had in

1 years past, I believe. Because many times you find  
2 separate organizations and institutions within each of  
3 these communities that haven't overlapped. I think the  
4 opportunity of discovery is probably very high when you  
5 bring these communities together that haven't worked  
6 together. I always remind people that discoveries occur  
7 in seams of disciplines where physics, math, chemistry,  
8 biology intertwine. Likewise, if we integrate that with  
9 human behavioral and social sciences, I think the future  
10 of discovery is even greater where that can apply to the  
11 importance of improving the human capabilities to  
12 address these common threats that we have globally. Of  
13 course we were reminded earlier by our speakers about  
14 the 18 sectors of industry the U.S. looks at, which is  
15 common across Europe and the globe, of how we live in an  
16 interconnected society, and much of this is cyber  
17 enabled. Many of the things that we deal with and have  
18 the challenge is in the areas of interoperability, and  
19 again the science that underlies that interoperability  
20 is most important for U.S. to be able to understand in a  
21 better way. I think that this is the opportunity that  
22 we have. One of the things that I'm very pleased to say  
23 is that within the Department of Homeland Security's  
24 investments in science and technology, we've taken, as  
25 shown by our previous speaker, the role that research

1 will play in this in trying to bring forth with  
2 partners. And we have a business process and an  
3 organizational structure that really is reaching out  
4 globally, and that's one of the reasons we find this  
5 gathering so important, is to bring this large community  
6 together because we all feel that again the  
7 cross-cutting areas of science will be a catalyst for  
8 these discoveries. Within our investments in science  
9 and technology, which is actually within DHS small in  
10 comparison to many of the other federal organizations  
11 within the United States, it behooves U.S. to be able to  
12 leverage the investments across the U.S. Government and  
13 with our European partners. This is something that we  
14 have within the National Science Foundation within the  
15 United States, certainly within the Department of Energy  
16 national laboratories, with industry, with other sectors  
17 of other government agencies, and with working across  
18 the academic communities of the world we have our DHS  
19 Centers of Excellence. We now have 12 of these centers,  
20 but actually those centers comprise almost 240 academic  
21 institutions. And these institutions again look for  
22 international partners across the academic community,  
23 and we certainly encourage that. Likewise with the  
24 programs of sabbaticals that we have between the  
25 academic institutions, many of these centers encourage

1 movement of both their research faculty to those  
2 institutions of similar interests across Europe, and we  
3 find that this is an important means of enhancing  
4 discoveries. So we encourage that through our  
5 activities. I think that overall I can say that I  
6 believe we have an extremely good collaboration in  
7 research. I believe that we can always make it better,  
8 and I think it's an opportunity with this community to  
9 then be able to work together in a more close union in  
10 the areas. And, again, science is meant to be something  
11 that is not partitioned or something that's constrained.  
12 It's really meant as something to broadly reach across  
13 in these challenges. And it seems to me that the areas  
14 that we have lined out for challenges only is going to  
15 create a greater unity, and I'm very pleased to see  
16 that, one, that we have this forum together and also  
17 with ESRIIF in terms of what they will be setting up as  
18 the research agenda. I also point out that we also need  
19 to balance between basic research and innovation. Many  
20 times great strides occur by taking chances. And so one  
21 of the things that we have tried to emphasize in our  
22 investments within DHS is a balance between innovation  
23 and basic research. So that's something that we will  
24 continue to encourage, and I am very pleased to say that  
25 we have a number of international partners with our

1 innovation programs under way. And I'll talk a little  
2 bit more about that tomorrow and some of the examples.  
3 But it's a pleasure to be here. I know I'm standing  
4 between you and lunch, and we also need a few minutes  
5 for questions, so I think I will keep my comments to  
6 those that I've shared with you. And thank you very  
7 much.

8 PROF. BENGT SUNDELIUS: Thank you, Starnes. Have a seat

9 and see if we have some comments or questions from the  
10 audience. While they ponder that, let me ask you the  
11 first question. Starnes, were you struck by "trust" on  
12 the guiding principles? There was a lot of discussion  
13 that underlying resilience and so forth is trust as an  
14 important thing. So we need to do research on how to  
15 build trust. And as a scientist I wrestle with this.  
16 How do we conduct serious systematic research on how to  
17 build trust in societies? How do you deal with that at  
18 DHS?

19 DR. STARNES WALKER: Well, I think within the scientific  
20 processes of review, of course peer review is one way in  
21 which we have outside activities under way across the  
22 domain of researchers in many fields of physics and  
23 chemistry. So I think the peer review process and the  
24 process of publications where we find within a given  
25 challenge area of science there are international

1 contributors on papers. This has been going on for, you  
2 know, decades and decades. So I think just the peer  
3 review process in the areas of publications where you  
4 have international collaboration, if we look to the  
5 future with such grand experiments such as the Large  
6 Hadron Collider, at CERN, this is going to be a great  
7 opportunity to share in the fields of grand unified  
8 field theory and nuclear physics. Eater (phonetic) in  
9 terms of energy research. There are many grand large  
10 programs that certainly emphasize the importance of  
11 international collaboration and trust. I think we  
12 continue to build on those.

13 PROF. BENGT SUNDELIUS: Questions, comments? Yes, sir.

14 AUDIENCE QUESTION: Yes, my name is Brooks Tigner. I'm  
15 chief analyst for Security Europe in Brussels, which  
16 covers EU security research and technology. Question  
17 for Mr. Walker: To what extent do you foresee that the  
18 two sides of the Atlantic will agree on a division of  
19 research, division of labor in that field with the U.S.  
20 doing certain sorts of security research projects and  
21 leaving the EU to do others? And, secondly, in the long  
22 term, medium or long term, do you envision any common  
23 funding across the Atlantic for S&T? Thank you.

24 DR. STARNES WALKER: Well, in terms of division of  
25 projects, I don't see any a priori partitioning in terms

1 of some ratio, but rather that whatever makes sense, and  
2 it's probably established on a program-to-program or  
3 project-by-project basis. So I can't say that there's  
4 any specific formula other than the fact that we have a  
5 common set of threats that we have to address globally.  
6 We have certainly a cyber-enabled world where business  
7 is done globally. Industry has international  
8 relationships and partnerships and structures, corporate  
9 structures that reach well beyond the domain of any one  
10 country. I see that this is something that, in terms of  
11 both programs and research agenda, as being something  
12 that's very flexible. The funding that we have within  
13 DHS S&T is that we are able to fund things on an  
14 international basis. It requires a collaboration across  
15 both sides, and that can be both in in-kind  
16 contributions as well as fiscal contributions. We have  
17 the sharing of ideas that knows no bounds in terms of  
18 capability, so I see this as something that is only a  
19 very open opportunity for all of U.S.. we also have a  
20 BAA process in place within our web page where people in  
21 the international community can submit ideas to our  
22 program managers, and those program managers can look at  
23 this and embrace that upon the things that they fund  
24 today and the things they wish they could do today,  
25 overlaying with the discoveries that are going on in

1 science globally. So I think this is something that  
2 we're very flexible and we have no specific formula in  
3 terms of how we'll make these investments. So it's very  
4 open and structured to the future.

5 PROF. BENGT SUNDELIUS: Mr. Mate, maybe you could  
6 elaborate on Part 2. There were 11 expert working  
7 groups that will present their reports, all together  
8 some 250 pages. And there's a priority list of research  
9 topics, very specific research topics, 95 such topics  
10 that we agreed upon. And for guiding the research  
11 agenda in more detail, more concretely, I would think  
12 that this Part 2, which was more in depth, is more  
13 specific, is even more useful to the community than the  
14 Part 1, which has more of a policy frame approach. Can  
15 you elaborate perhaps on how that will come to use, Part  
16 2.

17 MR. DRAGUTIN MATE: I must say why we decided that we  
18 have two parts of the report. Decision-makers, if I am  
19 saying it that way, usually don't have time to read 300  
20 pages of text. They have people who do that for them.  
21 But we believe in ESRIIF when we create the structures,  
22 how to present our work, we believe that we must have  
23 one part where we can send the key messages, the  
24 recommendations of ESRIIA, to the people who really make  
25 decisions: To the politicians in all levels that I

1 mentioned before and to the very, very high senior  
2 advisors who also don't have usually enough time to read  
3 everything. And because so many people were involved in  
4 ESRIF, in 11 working groups, and because of such  
5 specific themes that they dealt over two years with  
6 them, we decided we will have that second part of the  
7 report and the second part of the report will be much  
8 more useful for all of you who are here in the room and  
9 for all the research innovation community and for the  
10 industry too, because there are really details. There  
11 are really answers for what is coming out from the  
12 discussions inside of the working groups. And they  
13 dealing from all different questions that we have. When  
14 I looked before at the big screen at that picture of  
15 which areas you are doing in the United States, it's  
16 very similar to how we organized our working groups.  
17 Some of them are not the same, but actually behind  
18 they're talking about the same questions and they try to  
19 find the answers for that. And the exercise of so many  
20 people who are working inside of ESRIF really has given  
21 U.S. the full picture of possibilities and the full  
22 picture of answers for the questions that we have.

23 PROF. BENGT SUNDELIUS: Thank you very much for that.

24 And the full report will be available on the web so it  
25 can be accessed globally around the first of the year or

1 the end of this year. It could be a guideline for  
2 further collaboration across the Atlantic, more  
3 concrete, more specific. Thank you very much,  
4 gentlemen. You have earned your lunch.