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2010 GLOBAL SECURITY FORUM:
ARE WE HEADED TOWARD A
SMALLER DEFENSE INDUSTRIAL BASE?

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JOHN HAMRE: Any time that I've got Denis Bovin and Pierre Chao in the room at the same time, I can't afford their billing hours, so we're going to get started. I mean, we can't let a precious moment be wasted here.

Thank you all for being with us today. I must confess, I've enjoyed all of the sessions today but this is the one I'm really looking forward to because I think that it's the one over which I have the least certainty about where the hell we're going. (Laughter.)

Well, I should be very careful. Brett, that was not a comment about you, buddy. Brett Lambert is sitting over here in the corner. And somebody said, well, why isn't he up here? And I said, well, we're protecting the innocent; I think is what the answer is.

But this is going to be a very good session. We look forward to having a very lively exchange. I really don't need to introduce these colleagues to you. These are individuals that have been at the cutting edge, forefront, of helping us think about these defense industry issues for so long. And thank goodness that we have this opportunity to tap into their thoughts and perspective for this session.

We're going to proceed with – let each of them make some kind of framing introductory remarks to get this started; I've got a couple of cross-cutting questions that I will move. But then again, this session depends on all of you. The quality of this discussion is going to be directly proportion to how you engage us. So I'll ask you to get very engaged as we move into the session.

But Denis, let's first begin with you, and we'll let you start.

DENIS A. BOVIN: Thank you, John. Good afternoon, everybody. I'd like to thank you all for being here and thank CSIS for putting this on. It's a pleasure to be here with my other distinguished panel members.

I thought I'd give you some general comments about the industry and some possible directions. Hopefully, everything I say will be factual but I'm also going to try and be a little bit provocative here.

Let me start by framing the following: The history of American capitalism is that if you look at industries that operate under our system, as they mature, they consolidate. And they tend to form a pyramidal shape. Think of autos or software or computers or soft drinks – or the defense industry.

The defense industry today is stratified. It has three relatively distinct tiers. At the top are a group of – a very small group of tier-one primes. Each has slightly an excess of $20 billion in revenues. Underneath them and supporting them are a series of mezzanine primes and some pure-place service companies. They tend to have revenues of a billion to 20 billion. And then there's a whole host of smaller companies – subsystem providers, product providers, other specialists – that are less than a billion in revenues or around that size, and typically sell to everybody above them.

All these folks address a market that for the sake of today let's call the government technology market. It's about $400 billion in size. DOD is about 275 billion of that. Slightly more services than hardware, interestingly. Cyber security and intel add about another 60 billion of market opportunity to that. And then there's some Homeland Security overlap.

I have a series of economists that I listen to. And one of the things I've learned from them over the years is that when you find unsustainable trends, they tend to end. (Laughter.) And let me give you some statistics.

Last year, the United States government spent $3.5 trillion. It took in $2.1 trillion. We have about a $14-trillion economy, so 1.4 trillion in losses on a $14-trillion economy is about 10 percent of GDP that we're running negative.

Now, by comparison, in the eurozone, they've all agreed to keep their budget deficits at 4 percent or below. So just looking at the numbers, if we were in Europe, we'd be Greece. And I believe, therefore, that federal budgets are heading for a train wreck.

And the question is, where is the money going to come from? Well, one other way of parsing the budget is to say that of the U.S. budget, about 55 percent of it is entitlements. If, as the current administration projects, deficits are going to run at about 6 percent, that adds another 15 points of interest service.

So roughly 70 to 75 percent of the budget is entitlements. Half of what is left is DOD. And roughly half of DOD could be considered entitlements. So the only bill-payer around is procurement, RTD&E and the associated budgets.

We have seen over the last 30 years, the procurement in RTD&E budgets cut by 50 percent or more. And we may be on the verge of seeing that kind of a cut again, which is, I think, what Secretary Gates was getting at the other day in his comments.

There will be growth despite all those numbers. There'll be growth in unmanned systems, there'll be growth in C-5 ISR, there'll be growth in a bunch of other areas, but I would strongly recommend, with apologies to some of the people in the room, that now is not quite the time to go out and buy a shipyard.

So there'll be a bunch of places that I think will be under increasing pressure. The question is, what's going to happen to the industry? Well, this industry has been characterized by far more exits than entrances. Think of the people who used to sell to the government who aren't there anymore: IBM, General Motors, Ford, Westinghouse, GTE – the list is very long.

There will be some new entrants. The gentleman to my left has done a brilliant transaction to get a well-respected foreign company far more involved in the U.S. defense business and there will be other international companies that want to sell here. We'll talk, I'm sure, as part of the panel that there's a surprising trend of some commercial companies who I think will be making major efforts to get into this market. There will be some biotech and some other kinds of things. I think you'll see some spinouts that will be essentially new entrants into this market.

But in general, as a DBB – Defense Business Board – report put out earlier this year said, there are only four real strategies for people dealing in this market: You can either milk the business – run it for cash flow. You can acquire horizontally or vertically. You can acquire into commercial markets. Or you can exit by selling or going private or closing or liquidating. So there are some options. There are a lot of other things going on. I think we'll talk about values in the marketplace.

But I think we find ourselves in both the country and for this industry at a point not unlike that that faced a very famous admiral a number of years ago. I don't know how many of you are familiar with Adm. Sir Jacky Fisher. Sir Jacky Fisher was a legendary figure within the British military. He was twice first sea lord and admiral of His Majesty's Fleet both immediately before and immediately after the outbreak of the First World War.

And when took over he cut the naval budget dramatically. This was for the sovereign of the seas, the United Kingdom, and he redirected that money into building dreadnoughts and submarines and basically preparing for the war that he saw coming. And he's famous for a quote when he pulled his senior admirals and he said to them, "Gentlemen, now that the money appears to have run out, we shall have to think." John. (Laughter.)

MR. HAMRE: Well, let us – let's turn to our – to two other thinkers at this table. Mark, why don't you take us into a little different frame on this?

MARK NEWMAN: Okay, good afternoon. It's a pleasure to be here. It's certainly a pleasure to be representing Finmeccanica on this distinguished panel. And thank you for the opportunity, John.

I'll start by throwing out an interesting statistic that I found. Denis had so many numbers that I'm going to give you a different statistic. And if you find what I'm going to say funny, then you understand what's happening in the industry. If you don't find what I'm going to say funny, it's because you're very young. (Laughter.)

I learned not too long ago probably, certainly over the last 10 or so years, in looking at I know it's somewhere between 50 and 100 defense companies, that if you want to find out what happened to shag carpeting and paneling, go to a defense plant. (Laughter.) And that says a lot about what's happened in this industry. We forget that about a million jobs were lost in the defense industry during the contraction in the '90s.

But this industry exists to serve a customer. And we respond to what the customer's needs are. And the customer is working on his national priorities. So we have to serve those national security priorities. Obviously, if the markets expand, the industry expands with them.

But what's different today is there isn't much left of the industry. You know, there are only about 10 or so primes – major primes – that are here. There are some markets that they're involved with that maybe will see a slowing down. There are other markets that we may see some growth in.

But that's going to really depend on what happens with our customer's priorities. I don't think the defense budget is going away; in fact, I think we were all relatively surprised that the current budget is going to be about $700-plus billion. So that's still a lot of money that's being spent. So I think what we're looking at as industrialists is really a rightsizing of the industry.

I think the auto industry is a good case. If you look at what's happened to General Motors now, what used to be a number of car companies within GM is now narrowed down to four. And they're trying to figure out how to compete in a new industry.

One of the things that appealed to us was the fact that there won't be money around to start developments from scratch and that there is a lot of technology that our partners have around the world and that could fill some gaps – because there are gaps that need to be filled and there is equipment that needs to be procured.

It's very hard to guess what's happening with the budget. Certainly I don't think anybody here really knows John alluded to it. What I used to enjoy was Gordon England used to say that if you want to know what's in the defense budget, read it. (Laughter.) And so each year they're going to come out with a budget and we're going to respond. And certainly, you know, we look at the trends and we try to figure out how to make investments to meet those trends.

I'll tell you that although we've seen a huge buildup in the last 10 years or so – a lot of that started before 9/11 – how much investment really went back in terms of capital and certainly manpower. It was very hard for us to attract young people into the industry. If the dot-com hadn't exploded, I think we would have been far short of the people we need. I think the problems that we're seeing in contract overruns are really a result of the lack of experienced contracts people, program management people.

So on the higher level, the industry is kind of rightsizing itself. What we have to be concerned about are all the suppliers that feed in to the industry – the small- and medium-sized companies, where so much of the innovation comes from. And if they don't see a market, then they'll exit and they'll go to where the dollars are. And if that happens, even if the Defense Department wants to spend money, they're going to be hard-pressed because there won't be suppliers left around to supply the goods and services.

So what I see right now is basically a rightsizing of the industry and a relatively flat budget and some reprioritizing where we're going to make our investments, our R&D investments for the future. But I don't think there's going to be a big change, certainly at the upper levels of the industry. And we'll wait for comments as to that.

MR. HAMRE: Okay, my very dear colleague, Pierre Chao. Pierre, thanks for coming.

PIERRE CHAO: Thanks. Thanks, John, for the invitation. Denis was afraid we were going to say the same thing. I'm actually going to say some opposite things from the perspective – I took the question very literally, right? Are we headed towards a smaller defense industrial base?

And as any question about the industrial base broadly, I think the first answer you've got to give back is: It depends. Which is a silly answer, but the reason why I say that is any time anybody asks a question about, you know, is the industrial base healthy, or, where is the industrial base going to go, I'm going to react back and say, well, it's in some ways a silly question because there isn't one industrial base.

And that's one of the fundamental issues that I think we struggle with when we try to create policies or look at it from a broad perspective. So I will pick up on the notion that as industries mature, they tend to consolidate and get smaller.

I'll also sort of overlay that onto the thought that we have multiple industrial bases, each at different levels of maturity there. And you can take the typical sort of maturity curve from young, innovative, emerging industries – which in the '20s was the aircraft industry and today is the UAV industry – and I find lots of new entrants, lots of new people.

At the last air show, I counted 90 UAV companies. Okay? There is vibrancy at that side of it. There have been 10,000 new entrants into the defense industrial base in the last seven years. Okay? Now, what are they? Ten, $15 million, $20 million services firms, et cetera, et cetera. Okay?

So on one end of the barbell or one end of the curve, you see entrants, you see vibrancy, you see lots of things. You go to the middle of the curve, technologies that were invented in the '50s, '60s, '70s – defense electronics, et cetera, et cetera. Those are sort of chugging along.

And then it's when you get to the other end of the curve – essentially the technologies that were invented in the '20s, '30s and '40s – aircraft, ships, tanks, you know, the heavier platforms – that's where you see the concentration, that's where you see the age, that's where you see problems with the industrial base . I'm down to one propeller manufacturer for the U.S. Navy. I'm down to two thermal battery guys and missiles, et cetera. And so that's where you have the angst.

The industrial base issues at one end of the curve are fundamentally different than at the other end. In fact, trying to apply policies on one end to the other will really mess you up in the grand scheme of things.

And the issue at the more mature end of the industrial base is, what parts are the ones that I still need and I endure with because unlike the commercial industry, when you're at that mature part, inevitably somebody restarts the cycle on you and wipes you out – in the defense industry, it's that end of the curve that we fight all our wars with, right? That's the fundamental issue.

So I actually still need those ships, I still need those aircraft. And the decision point is, which one is – who is the last Cabriolets manufacturer? Versus, who is a critical industrial base component? And so, well, as Denis should know, at a price, I would buy a shipyard because it all depends on the price because I – (inaudible, cross talk) –

MR. BOVIN: I have one for you. (Laughter.)

MR. CHAO: Yeah. Because we know – and at a price I would buy it – (laughter) – because we know we will be building ships at a certain level forever until somebody comes up with a really innovative new way of doing that curve.

And so when you ask the fundamental question, are we heading towards a smaller industrial base, from a sheer numbers perspective, I would actually argue that we have a prospect of actually still growing from a numbers-size point, particularly because we have not ended up with a pyramid but with a barbell: Five large players, a whole bunch of smaller players protected by small business set-aside and other policies that has actually kept that. And what's been squeezed in the last 10, 15 years, partly because actually all three of us have been involved in creating that shape, has been the squeezing of the middle tier as they've been sucked up into the larger players. And we haven't had a lot of graduation out of the smaller players and repopulating that.

I think from a policy standpoint, there seems to be an urge to see that mid-tier repopulating. From a financial standpoint, we all know of successful CEOs from the last go-around that have now reloaded and are trying to rebuild and redo again. You don't know how many times I've heard, I want to do another DRS, is sort of the comment that I hear. And there's a private equity industry that is more than happy to fuel that.

So I think one of the trends over the next, sort of, 10, 15 years that you're going to see is the repopulation of this mid-tier. So from a sheer numbers perspective, I think there is the prospect of growing. We have the prospect of foreign companies, obviously, looking also at the back fill-in and act as that.

Now, if you ask the question from a sheer dollars perspective and revenues perspective, I would agree wholeheartedly with Mark that the industry will right-size and follow the budgets, although it is interesting to note and if you take a look at the lessons of the 1990s that it was in the last downturn that a drop in budgets didn't necessarily translate into a drop of revenues as people adopted acquisitions as the coping strategy.

Clearly, we have a different industrial base. That strategy may be off the table for most. Or I shouldn't say, for most – once again, I violate my own rule. For certain people in the industry, that strategy may be off. But I think for the second and third tier, those four strategic elements are there.

And so the real dilemma is for the large, purely dedicated players in terms of what is the adaptive strategy and what they do. As acquisitions become constrained, going commercial is still – Wall Street still hates that. The phrase, it's unblemished by success, by defense companies, still holds out there. And so you can see everybody looking to see how far can we push the envelope in terms of growing and adapting.

We should not fear about the survivability of the defense industry because they're all very smart. They will adapt. They will find an answer. The issue becomes, in developing those adaptive strategies, does the industry end up where the policymakers want them to and where the Pentagon wants them to be?

And therefore, the challenge is laying down the signposts – the burden on the DOD is to lay down the signposts of, where would you like the industry to go? What will you value? Do you value competition? Do you value innovation? Do you value stability? You know, the answer the last time around was, I want to end up with a handful of large players that can survive the downturn because they will have the financial heft and weight and breadth of products to survive.

We got what we wanted. It was actually a success, right? I'm not sure that an individual Grumman, Northrop, Lockheed, Martin Marietta, et cetera, et cetera, would have survived that 15-year period. A Lockheed Martin could. A Northrop Grumman could. A Raytheon could. A General Dynamics could.

Now, the question is in the next downturn, what is the right adaptive strategy? And that's where this dialogue between both sides is needed. And that will dictate, I think, ultimately what the sort of size is and where we go.

MR. HAMRE: Wow. I thought we were going to have a lot of – we've got harmony, but we don't have unison, which is good. It's what we were looking for. Let me pose a couple of questions and then open up for everyone here. I remember back in, I think it was 1998 when we were in an era when we had a very frothy IT environment, the so-called dot-com, frothy dot-com environment and at that time, defense stocks, defense companies were being value poorly, you know, on the market.

And I remember a comparison at that time, that you took the top five defense contractors and you took the top five dot-com companies. The valuation of the lowest of the dot-com companies was greater than all five of the defense companies combined. (Laughter.) The revenue of the lowest defense contractor was bigger than the revenue of all five dot-coms. (Laughter.)

I mean, it was that weird. You know, it was frothy and – but it was a time when the market was saying something to the industry and it was a tough time. My question really to, especially you guys and then to Mark, are we heading back into that window? I mean, we've got a period now where it looks like the market is starting to look askance at defense contractors.

And I'll say, I did not understand this when I was in government. And I'd venture to say with the exception of Brett, not many people in the government understand this today and what it means for the contractors. And so I'd like to – first of all, is this the case? And then second, Mark, what does it mean for a guy like you that has to live in this environment? So Pierre, start and then –

MR. CHAO: So what's interesting is today on average the industry in valuations is – and Denis, correct me if I'm wrong – is floating around, right around seven-and-a-half times EBTDA – earnings before taxes, depreciation and amortization. As a valuation metric, it's the one that's most typically used.

What's most relevant for the audience is to note that that is actually, relative to the market, near its 50-year cyclical low. So the marketplace has fully embedded and priced the downturn in the defense budgets over the next 10 years. It's embedded in the price today. It's essentially that. I have forecasted it, I know it, I have reacted and here we are. Not exactly at the low, but it's near the low.

The beauty about the street is everybody accuses it of being very short-term. It's actually not short-term. It is long-term in view, short-term in action. In other words, because it can buy or sell today, while Mark actually has to live through that next 10 years, the street can sort of – based on the investment. Now, if you're an investor, that's actually an interesting opportunity because I would submit to you that we will not experience the full 10-year downturn for a while in some ways.

So the other thing that's different from the '98 timeframe is that the industry is near its probably historical lows in terms of the amount of debt that it has on its balance sheets. And so it actually has a lot of financial firepower – provided that the government doesn't do anything sort of strange to sort of short circuit that – to adapt and react to the upcoming sort of strategic changes and environment from that perspective.

So I have this weird dichotomy where I've got an industry with very clean balance sheets, lots of financial firepower, a stock market that has already sort of thrown it overboard. Private transactions are actually occurring at higher multiples than that. That discrepancy cannot last and I'll let Denis sort of, you know, he's probably better to address that from that perspective.

And I would submit to you from a government standpoint, you shouldn't care about the stock price until the point that it impacts the industry's ability to access capital and do what it can. And because today, the industry has done a good job about being fiscally responsible about its debt loads and all that, it actually has the firepower to at least start to do what it wants to do.

MR. HAMRE: Denis?

MR. BOVIN: Pierre put his finger, I think, on the key element. Today's senior management of every defense contractor that we all deal with is worried about capital allocation. As you know, large defense contractors tend to make most of their money when they're running out of programs, not when they're bidding on new ones.

There are very few new programs to bid on, so we are in a position where most of the industry over the next two, three, four years will hemorrhage cash. If they are restrained from doing mergers and acquisitions of size, then there's only a limit to the amount of stock or debt that they can buy back. And the question is, where does that capital go? You can return it to shareholders, but there are limits to all those things.

So exactly as Pierre teed up, we have a situation where the industry finds itself with relatively low equity values – 30 percent down in the last two years, near 50-year lows – very low debt levels, a very bad future baked in – that bad future may not eventuate; my guess is there will be some spikes that change that – and lots of government restrictions.

That to me is almost the perfect template to see a 40 or $50 billion going-private transaction of a large defense contractor. There is money available to do it. If you run the numbers, it actually makes an enormous amount of sense for the people who invest in it. And the problem is there's capital, certainly, from the banks now available.

So if you take large contractor number four, enormously lever it up but give the shareholders a nice return and take it private, you now have a private arsenal company with a very heavy debt load. And I can tell you that the senior managements of those companies, when they look at capital allocation, will use their capital allocation decisions to reduce the debt, not to invest in what the customer wants. And that's where the industry finds itself today. The logical extension of what Pierre said is, people are going to look at that much more seriously.

MR. HAMRE: Mark, do you want to –

(Cross talk.)

MR. NEWMAN: Well, they said a lot. I can just add that what the interesting dynamic is that the senior managements in most of these companies have changed over so there's new regimes, younger guys that have come in now who are going to start getting ideas about what to do with the landscape.

My experience has been that nobody was ever interested in defense. I mean, there was a short period there where – you know, I'm talking from a Wall Street perspective – where maybe they would listen to you. There was money around, you know, when everybody had the opportunity to borrow money, certainly, the banks were willing to throw money at anyone, so they started looking at defense again.

But nobody on Wall Street really – and except for guys like Pierre – but the average people didn't really understand this industry, didn't understand our customer and in fact I found many of them didn't even want to begin to try. So yeah, I mean, Denis gave me this speech, like, over and over again and that's why we were as successful as we were because – (chuckles) – he kept financing us. (Laughter.)

And what he's outlining for you is a recipe to get some people – especially in a day and age when stock options aren't going to do it for these executives anymore, not just in the defense industry but in other industries as well, as people are looking – will be looking at new ways, capitalists are looking at new ways of trying to make some money. And if they can't do it with a stock that's selling at a low multiple, they begin to look at going-private transactions. So that's probably an interesting approach.

MR. HAMRE: Yeah, jump in.

MR. CHAO: One more quick thought, to pick up on something that Denis said, which I think is an important one in terms of capital allocation decisions. I mean, one of the – if the government wants lots of competition and wants new players and wants the industry to reinvest back in itself, you actually need programs to bid on. If you only have one Joint Strike Fighter that represents all of the programs for the next 15 years, don't be surprised when you're down to one player. I've got 90 UAV companies because I have got lots of UAV programs to go after and chase.

And so there is a direct linking correlation between opportunity set – you know, you can invent the best next black box or a great valve or a great actuator. If I don't have a program to put it on, as a CEO, you ought to go back to the engineers and say, why are you wasting your money investing if there is nothing to put it on? So I would argue there is a direct correlation between things to bid on versus how wide and broad the industry is.

MR. HAMRE: And that's why I was saying before that if you can't have interesting work, you're not going to have young people in the industry and they're going to look at other avenues.

MR. BOVIN: And to underscore what everyone just said, if you think about where people believe the growth markets are today, it's cyber and intel. Everybody we speak to wants to put more money into cyber and intel. They believe those are terrific markets. And they're finding a very interesting thing: The guys on the outside, the commercial suppliers of cyber and intel-type technology solutions realize that they don't know how to sell to the government.

HP bought EDS for a reason. Dell bought Perot for a reason. Part of that reason was to get access to the government customer. Likewise, as we go through the defense industry, we find that there is a growing recognition that when one of the three-letter agencies comes to you with a problem, the solution may not be in house. It may be at McAfee; it may be at Symantec; it may be at Microsoft.

So we have – if you think of it as a Venn diagram, the overlap between those two markets is getting much more robust. And to the basic thesis of today, I think you will see the industry morph and change. I do think you will see a bunch of commercial guys try and get in and solve some of the government's problems here. How successful they are remains to be seen, but there will be attempts.

MR. HAMRE: If you'll forgive me for indulging in an editorial comment going back. When Dennis gave his fascinating little excursion about the potential trajectory it could take with private capital, I'll tell you, there is nobody in the Defense Department that would understand that statement.

And I wouldn't have. I mean, I'll blame myself. Ten years ago, I wouldn't have had a clue what you said. But 10 years ago, it didn't matter because we were able to get a Bill Perry willing to be a secretary of defense or we would – you know, we'd have Gordon England.

But we're heading into this period where we're making the barrier to reaching out to qualified businessmen to serve in the government impossible. And if we're not going to have people in senior positions who understand the significance of these trends, the department then can't do what you both pleaded for it to do, which is to give strategic guidance on what it wants this industry to adapt. And this is one of the great crises that we face.

Let me shift over and ask the three of you; you know, these last two weeks, Secretary Gates has given a couple of pretty important speeches. It seems to indicate a really different trajectory going forward for defense budgets.

The street has reacted in kind of a neutral way. It has got a neutral buoyancy. It was hearing what it always expected – tight budgets coming – but because it was directed more inwardly at the way the department does its organization, not just at contractors, it appears to have not had a big impact.

Now, it could be just that they've already fully priced out the downturn. It could be that. Or it could be that they read the speech more carefully than Washington policy types. But let me ask you: Do you see this as being – what do you see this as being as a real trend line going forward? Is it going to be a marked change or is this kind of a familiar rhetorical embellishment on an old theme that we have in Washington? We'll start with you, Denis.

MR. BOVIN: As an American taxpayer, I absolutely applaud what Secretary Gates has said. He's right. It's painful. We don't want to recognize it. We don't want to make the changes that he says are necessary. But, good for Secretary Gates; if you look at the data, it's an inescapable conclusion that where he wants to go is the correct place.

The market ignored it. Why did the market ignore it? Well, it was interesting to me that it came on the heels of another very small article that was buried in the paper. Those of us who stay close to the department were very encouraged a number of months ago when the secretary said, look, by the time decisions on acquisition get to my desk they are already baked in and I don't really have a chance to make any decisions.

So what I want is the Office of the Secretary of Defense to be at the front end of the requirements process. And I want it to be iterative so that I have a chance as the secretary of defense to weigh in on these things and kill them or put more money in as is necessary.

A news article came out – I believe it was last week – saying that they were moving away from that because they had done as much as they could in this budget and it was essentially too hard to do. And I think that's the crux of the matter. Because of his longevity, because of his knowledge, because of his fabulous leadership, Gates is an unusual position to make a number of these changes.

If he couldn't insert his own ability at the front end of the requirements process, then the question is, how will he be going against Congress and really making some of the harder choices? I hope he succeeds. It's the right thing for the country. I think the market is telling you that they're skeptical.

MR. CHAO: I think a lot of it was also baked in from the perspective of they hurt something that, again, has already been embedded in the public stock valuations. I think there's an element of, that this is the trend line, frankly – in fact, in some ways, look, everybody has been predicting this down – not everybody. Most people, mea culpa, including myself, have been predicting this downturn for quite some time and, frankly, we've all been wrong, right?

The budgets have stayed up higher and longer – I mean, we've been now hearing three, four years now that it's got to turn, it's got to turn, it's got to turn. That's a real strategic dilemma from a CEO and an investment perspective, right? Your head of forecasting and strategic planning is coming and telling you, it's got to turn, boss. And yet you see that it's keep going.

And frankly, if people had made decisions three or four years ago on the basis of things turning down – the prediction of turning down – you would have made a wrong decision. On the other hand, trees don't grow out of the sky and at some point, it has to roll over.

In fact, the sign – we are now what I would call in a bubble economy in relation to defense; that it goes beyond the fundamentals. But how do bubbles behave? They go higher, longer than you expect and just as you're about to give up and say maybe sometime, this time, it really is different, that's usually where it turns.

Things that go higher and longer than you expect means that they turn down faster and harder than you expect. And trying to predict exactly when and where is very, very hard but becomes the real challenge. And so I think the decision-making isn't there.

And as a couple of investors have – you know, I still stay in touch with – have mentioned to me, if I make a bet on defense, I've got to keep betting that I'm going against the trends every year longer and longer. If I bet on the general economy, you know, industrials, which is at the bottom, it has to inevitably turn up.

So it's this question of something has got to inevitably turn down versus inevitably turn up dichotomy that's in place. That being said, again, frankly, the fact though that the street has already baked all this in, I think, is where the opportunity is. And it gives us the breathing room to get the policies right, to get the strategies right, to get the activity right.

MR. HAMRE: Mark?

MR. NEWMAN: Let me just say that from an industrial standpoint, your life is trying to win contracts. You know, that's what we do every day. So we try to forecast where budgets are going. If there's uncertainty and we see, though, that they don't seem to be going down, then what we do is we just forecast the flattening of the budget. And that's what we've been doing for the last few years and we've been pleasantly surprised to the upside.

But in the meantime, it comes down to just trying to win individual programs one at a time. And when you're going after programs, there's a whole echelon behind the structure that feeds into those programs and you're talking to the customers on a daily basis. And in a time of war, they're generally not cutting those kinds of programs.

So if you're in Lockheed Martin right now and you're looking at the Joint Strike Fighter and you're the manager today, you're Bob Stevens, yeah, they may limit the number of planes that are sold, but when are they going to do that? Is that going to be 15 years from now, 20 years from now?

The time horizon on these programs is so great that it just – nothing just turns on a dime except in those cases where they cancelled programs. But even then – you look at FCS, which has been cancelled. There's a lot of technology there that's going to be used to enhance existing platforms. So where you're looking at this in a macro sense, we're dealing with it in a micro sense just going after program after program. And that's what your business is.

And I can tell you, from a guy that's been in this for almost 37 years now, it hasn't changed. (Laughter.) You're always falling off the edge of the cliff and you always have to fill in with something new. And guess what, even Denis has to do that. You know, he gets a big score; he's got to go after that next client. So that's business.

MR. BOVIN: My wife counts on it. (Laughter.) If I can add one thing to that, I found a quote that really illustrates very well what Mark just said. It comes out of a report by Business Executives for National Security and it says, "Defense acquisition revolves around 15-year programs, five-year plans, three-year management tenures, two-year Congresses, 18-month technology cycles, a one-year budget and tens of thousands of pages of regulation." And that's how it operates on a daily basis. That would not be the way we would design it if we were starting from scratch.

MR. HAMRE: It's also, sadly, not a great deal of flexibility to change it either.

MR. BOVIN: Right. Exactly.

MR. HAMRE: That's unfortunately – let me ask one last question and then I'll come to you, Jim. You know, I've personally – and I share your enthusiasm for Bob Gates in general and for what he's trying to do. I mean, I used to be the comptroller and, of course, Judas Iscariot is the patron saint of all comptrollers. You know, so I love this rhetoric. (Laughter.)

But I sense some tension here because it was not more than nine months ago or six months ago when the theme was insourcing, we're going to take work back into the government. And yet this is very much, we're going to get rid of admirals and generals and streamline.

And I frankly don't know how to square this picture because I think this is maybe why industry is skeptical. Is it this that's really behind it or is it the politics in Washington that's behind it? What do you sense of it?

MR. BOVIN: I think with any multivariate problem, the more the variables increase, the tougher the solution. This is one which is in this room, it's in Congress, it's in the Department of Defense.

And let's be clear: Whether God herself became the next secretary of defense, it would depend upon her tenure in terms of whether she would get to these series of problems. So we're fighting two wars; if they go away, there are going to be others. And I think it's just the nature of what we're looking at here that tends to be the problem.

MR. HAMRE: Jim, turn to you. We have a microphone right down here at the front table. Jim Admiral (sp). It's right to your right.

Q: I was interested in the statement regarding R&D and the resource or the allocation to R&D in companies' defense firms. And many programs, particularly the large ones, are funded with quite a lot of government R&D, defense R&D with each one, even on a year-by-year basis as they build up. How does that ratio of government R&D to a requirement for the defense firms – or in some way, they're a commercial firm, but – a commercial investment affect things?

In other words, suppose in solving some of the budget problems, they drastically look at cutting R&D. Does that help the industry? Does more go into R&D and you develop things that you can then sell because you come up with the ideas? Because it seems to me the R&D is pretty focused when you get it for these large programs if that makes any sense.

MR. HAMRE: Why don't you both – yeah, Pierre, go first. You've done a lot of work on this.

MR. CHAO: Yeah, so one of the biggest changes that occurred after the Cold War. And it feels like ancient history, but the fact that you had the Cold War and you had a unitary adversary in some ways act as a self-organizing function for the industry. Pretty much if you spent money defeating the Soviet Union, chances were the Pentagon was going to come along and buy the product. You can make a very sharp line right at the end of the Cold War till today and where the industry once upon a time spent about four to 4 percent of revenues on IRAD – its own R&D. Today it's at 1.5 percent, okay?

MR.   : Right.

(Cross talk.)

MR. CHAO: And I think it's there primarily because that self-organizing function has been removed and we haven't had this kind of strategic direction, not because the Pentagon is bad but because it's faced with a multivariate problem as, I don't know if I want you to invest in an anti-al-Qaida device or an anti-large East Asian country device – (laughter) – you know, et cetera, et cetera.

And so the reaction – a prudent CEO sits back and says, why don't I see where the government is spending its R&D? Because I know I have a demand signal from that perspective, I'm going to chase that.

And so we've had this phenomenon where IRAD has come down; it's been replaced by CRAD – you know, or GRAD, government-funded research and development. And then the industry has also substituted mergers and acquisitions for that internal research and development; again, I'll watch that little guy grow because I know that the government wants that product and it is more fiscally prudent for me to buy that company than it is for me to invest in the technology.

And as a broader policy perspective because, once again, now I'm short-circuiting the – I couldn't grow the next Lockheed because if somebody is smart, they're getting them in year 15 of when the Lockheed brothers were sort of doing their thing rather than let it grow all the way up. So that is, I think, one of the big pivot points about this next downturn about where you spend the CRAD, what kind of incentives do you set up.

The war has been creating a set of demand signals and we are seeing – the most amount of innovation has been answering the war demands, you know, in the grand scheme of things. I don't think – and already the R&D budgets are rolling over on the government side, right? And so that is going to get exacerbated and unless you can find a way to reincentivize back the IRAD side and make it financially make sense for them to commit that capital, you're going to get that double sort of hit.

MR. HAMRE: Do you want to speak to this?

MR. BOVIN: I think Pierre got it exactly right. The only one element I'd add to what he said is that Norm Augustine said that he wanted to make Martin Marietta bigger because he wanted to be able to take two or three torpedoes before the ship went down. And he accomplished that. That's what's happened in the consolidation of the industry.

But now if you're sitting at the top of something like Lockheed Martin and you have 10 requests to spend R&D money, before, if you were in the airplane business, you had to spend it. If you were in a bunch of other businesses, it competes for capital. So it does come back to the capital allocation question and I think it's going to be tougher going forward, not easier.

MR. HAMRE: If I could just build slightly on what both these gents have said, you know, the thought early in the Cold War was if you could skin a cat, you could skin a kitten. You know, I mean, if you could fight the Soviet Union, you could handle anything else. But we're now living in an era where we're fighting civet cats and wolverines. And they're all over the place and there's just no clear idea about what it is we should be planning for. And I think the loss of a consensus on long-term modernization frame of reference is really one of the great problems plaguing the department right now.

MR. BOVIN: I think what Gates is trying to forge.

MR. HAMRE: It is what he's trying to do. Yeah, I think that's right. Okay, let's open up here for other – yes, please in the back? The microphone is right coming. Thanks.

Q: I'm Marcia Smith with the Space and Technology Policy Group. I think it was about two weeks ago, there was a congressional hearing on the national security space program and I believe it was Gen. Kehler who was asked, what is it that keeps you awake at night? And his answer was the industrial base. But what I'm hearing today is that maybe things aren't quite so bad. And I'm curious, is there something unique about the space part of the defense industrial base that makes it more vulnerable than the rest of the industrial base?

MR. HAMRE: Pierre, can you take that please?

MR. CHAO: So I'm back to, again, you've got to be careful when you talk about the industrial base. So space is one of the ones that's in the corner where there has been more pressure. It's extremely capital-intensive. It's in one of the more mature areas. By policy, we've decided to go to a monopoly with ULA. And so the underlying supplier base has had a tougher and tougher time.

And this is one space where the export-control rules have really hosed up the industry. We spent a lot of time taking a look at it. And it has created the unintended consequence of forcing overseas countries to develop their own industry when they would have been happy to buy from us.

Our guys can't export, so now you've become entirely dependent and hothoused on the national security side. And there isn't enough, sort of, programs and work to do that. So the larger companies, I think, are okay, but when you get down into the second and third tier, this is where you're beginning to see the single points of failure, the shrinking of the industrial base and so I think he is right to be worried about that industrial base.

CSIS has done a lot of work on this domain and place. And from that end of the curve in terms of maturing industries, if you want a canary in the coal mine-type indicator, you know, look at the issues that the space industrial base is going through as some of the things to address pretty quickly. And where you could always also rely on a little bit of relief on the commercial NASA side, now that's also sort of getting cut back. So now I'm getting whacked at in all kinds of multiple areas.

MR. BOVIN: I didn't hear the general's testimony, but from what you say, I agree with him. The concern that would keep me up at night would be my defense base and my supplier base. The single point of failure issue is very real. If you look at the space segment, it has consolidated down to essentially a null set: What's there is all that's there. If any one of those guys decides to exit or go private or to lever up, the amount of support that we'll have in space will deteriorate very quickly.

So I think he is right at an inflection point. If he can maintain that, he's okay. I don't see where the growth comes. And if we start to cut back as NASA has done and other people have done, people are going to continue to withdraw capital from it. So I think it is a very vulnerable area.

MR. HAMRE: Okay, let me ask a question. And this is to you, Mark. And forgive me for putting you on the spot, but what is this with the pathology in the defense industry that protests every bid that's awarded. (Laughter.) And why are we in this space? Part of it is the ineptitude of the government in running competitions. And I've been shocked at how many bid protests have been sustained by GAO. So there are a lot of things going on here, but we have a bad environment. Can you share your perspective on that?

MR. NEWMAN: Well, you know, obviously if you lose, there has to be a reason for it because you know you had the best proposal. (Laughter.)

MR.   : Next question. (Laughter.)

MR. NEWMAN: There's no secret to that. You know, there aren't a lot of programs around. If you think you did a good job and you think something went wrong in the procurement side, you want to take a look at it because very often you don't get a satisfactory answer when they give you a debrief as to why you lost the program.

So I think you deserve at least the second shot to at least see a good explanation, hear a good explanation for why you missed. And I'll tell you for us, we've lost programs where we had great technical and lowest price and you lose and you don't understand why you lost, so you go back and you try to find out and if it doesn't make sense to you, you protest.

MR. CHAO: On the services side, there's also been a phenomenon, though, where everybody bids – you know, it's almost become part of the bidding process to protest because what you find out is, essentially, the answer comes back, well, fine, why don't you take 10 percent of the program in order to go away and take the protest away? And so it's encouraged and created this phenomenon that you have nothing to lose by protesting.

MR.   : There's no downside.

MR. CHAO: I think it's been more egregious on the services side than, frankly, on the hardware side, where this phenomenon has been growing. And the lesson that's been learned, frankly, based on actual behavior has been you have no reason not to. There's also a cynical approach of, if I protest, I can delay the award by another nine months. That's another nine months of revenues I can keep getting. So I think the issue has been more driven on the services side, frankly, than the hardware side.

You always want to leave room for legitimate protests, you know, and the issue is how do you dismiss a frivolous? But frivolous always looks frivolous to the winner not the loser. But it has become a big issue that probably needs to be – I'd love to see the data that sort of says, you know, how many are sustained? How much is it costing us? How much are programs being delayed in terms of start, et cetera, et cetera, to kind of get at the basics of it?

MR. NEWMAN: It's a very real problem because, you know, it used to be you would win a program and you got at least 10 minutes to celebrate and then you had to figure out how you were going to do it. (Laughter.) Now, you win the program and you don't even believe you won the program because you're waiting for the protest. Then you got to wait those two weeks or whatever it is, you know, until you – but it's just a fact of life when there aren't a lot of programs to go around.

MR. HAMRE: And you raise this issue of whether the government has lost its competence to run good acquisitions.

MR. NEWMAN: That's right. And they have made mistakes.

MR. HAMRE: I mean, one of the great problems – and Pete, I'll come to you next – but one of the great problems when we had the so-called procurement holiday during the '90s – and I don't know that there was an alternative, by the way – but one of the unintended consequences of that was all that on-the-job training that captains got when they became majors and majors got when they became colonels so that they learned the system, they lost the pipeline of training. And so we now are living with a dangerously thin competency base in the administration with very ways to replace it, especially when we buy so few things.

MR. CHAO: Well, there used to be enough confidence in the decision based on the competency of, go stuff yourself, you know, that's the decision and go away. And there would always be a fear of, I don't want to protest this because I'm going to piss off the customer. So you had to be really sure that the barrier was high. And now that sense of, well, I'm not sure. You know, if you see that opening, there's no reason why not to go and protest.

MR. BOVIN: And John, your question and particularly Mark's answer leads to a whole series of interrelated questions. There has been a lot written and talked about the acquisition workforce, how it's gotten smaller, how great talent have retired and gone elsewhere, how insourcing is supposed to solve that. I think we're at a point where we need to step back and say, let's not focus on the numbers.

Do we have the structure right? Should this be in the services? Should it be part of Title X? Should there be a separate acquisition force that cuts horizontally across the building? Are there some other approaches to build on best practices here to try and get us to a much better place?

And as has been said in this town many, many times, never let a good crisis go to waste, this is one where I think everybody believes it's broken. There hasn't been a lot of work that I've seen in terms of what the alternatives might be and this is a pretty interesting time for that, I think, to be looked at.

MR. HAMRE: Pete Pace? We're far in the back, so we need to –

Q: You said that you didn't understand – (inaudible, cross talk) –

MR. HAMRE: We've got Internet people listening in, so they – we want them to hear you. (Inaudible) – we've got a mike.

Q: You can't – (inaudible) – off the Internet? (Laughter.) John, you said that 10 years ago you would not have understand what John – what Denis said, excuse me. I have been stunned in the last two-and-a-half years since I've been retired to learn the things that I had no clue about when I was responsible for the requirements part of the process. You sit in the Pentagon going through the processes, thinking that if the people read the budget, they'll know what's going on, and you really have a belief that there's a good dialogue.

And then you go outside and you find out, man, a little bit of vector would have helped the country a whole lot. So the question to you all really is, what are the major impediments in the flow of information between the government and industry and what changes might we make to the policies that would allow us to do better at that so we can be smarter in the business?

MR. HAMRE: Can I just say, these guys are making a very handsome living answering that question, so I don't know – (laughter) – but they may not want to give you the – go ahead. (Laughter.)

MR. BOVIN: Pete, I think it's a profound question. And good for answering it. And I'll give you a first, one-word flip answer which is based on literally years of dealing with that problem: The major impediments are lawyers. Brett will tell you that the restrictions – his job is to interface with the industrial base. The restrictions on him from the in-house lawyers about what he can say, who he can meet with, what happens at that meeting, who else he has to tell, et cetera, et cetera, are legion.

I remember the industry in the '90s and before when very major CEOs had a problem with a program, they would go in and sit down with the customer and say, here's the problem; here's what we want to do about it; here's how we want to fix it.

Those conversations are rare today and we have gotten to the point where the assumption is, everyone is a crook; everyone's trying to steal; we need to have a very large infrastructure to protect us against those people. And we're spending 80 or 90 percent of our effort on 1 percent of the problem.

So I really don't want to minimize that there are many other issues. But we've gotten ourselves to a position where it's hard for good, loyal customer-supplier relationships to occur and we're paying a very large price for that.

MR. CHAO: So I think on the good side is that I think there's been a recognition of this issue and there are efforts underway. There are well-known institutions that people are trying to bring back. John used to host the DPAC, which was a mechanism for the CEOs to get together with the senior level of industry. We're kind of gradually going over there.

Denis has it right on the head in terms of what the issue is. There was an infamous memo that was released a while ago that put a chilling effect on conversation with industry – and not that people are sort of trying to roll back. You know what it would take? I think that it would take a very simple leadership thing, which is, just give the people cover to go out – say, go out and interface.

And if somebody makes a mistake and gives a goof, rather than toss them overboard, which then would send a message of, good lord, I don't want to be that guy; of, nope, sorry, that was a clear mistake; that was okay; keep talking. It's that, say, symbol of leadership from that perspective.

MR. HAMRE: Ray DuBois?

Q: Just as a quick aside on that issue about lawyers: As a former senior civilian leader in the Pentagon, I can tell you that the lawyers would often advise me. And I reminded them, they advise, I decide.

I also wanted to suggest that one of the reasons that we have a difficulty like this is that there – of the top six senior civilian leaders in the Pentagon today, not a single one comes from the district. They don't have an appreciation of what is going on, on that side of the equation.

(Inaudible) – several references to shipbuilding: During the BRAC process because the legislation restricted the BRAC analysis to solely the four shipyards owned by the United States government – the United States Navy – we could not look at the other six or seven major privately-held shipyards.

My analysis says – although we did a sort of subterranean analysis because we had to look at really the entire defense industrial base with respect to shipyards – that all of the shipyards, public and private, have at least an excess capacity of 50 percent; every single one of them. We tried to close one. The BRAC commission overturned the recommendation.

How can Secretary Gates – I think one of the subtexts of his comments recently, how do we take overhead cost out of the DOD top line, reinvest it in operational fighting force issues? But to me, this shipbuilding issue is one crying for a solution. Do you have any ideas?

MR. BOVIN: For those of you that don't know, Ray had a very distinguished career in DOD and in the government looking at these issues, which is why he asks questions that we don't know answers to. (Laughter.) Ray, I think that the shipbuilding Rubik's Cube is a tough one. As you say, they're both public and private shipyards. They are vigorously protected by Congress.

The other point I'd made to Gen. Pace is that the lawyers are responding to Congress where it's "gotcha" after the fact, not before the fact, and that's part of what it is in terms of screwing up the communication links.

The only thing that I think will happen relative to the shipyards is, as Pierre said somewhat jokingly, some people are going to give them away. And that's not something the customer can affect. And they'll go private and someone will buy two or three and basically combine them into one. Other than that, they're going to continue to hemorrhage cash and at some point, somebody says it's too much. But as you said, you've dealt with that problem; a lot of us have tried to deal with that problem and it's a very hard problem.

Q: It's overhead that we pay?

MR. BOVIN: It is overhead that we are paying for. What Secretary Gates said is, I need to find 3 percent; give me 1 percent and I'll feel pretty good about it, but I need to find 3 percent. From the lens of a businessperson, if Mark were secretary of defense, the decisions are obvious; the implementation is excruciating.

Mitzi, and then – (inaudible, off mike).

Q: I'm Mitzi Wertheim with the Naval Postgraduate School. One thing for John, when I saw that business about insourcing, I assumed that was about civilian insourcing because the building is now so riddled with contractors, I call up and I have to go up three levels to get to somebody who is actually employed by DOD as opposed to a contractor, so just one that.

What I'm struck by is I've been trying to understand the DOD processes. How do things work, and just trying to map that. And when we tried doing it back in the '90s, I would bring managers in and get them to try to map it out. Well, they didn't have a clue in the world.

What I find so interesting, I actually did an analysis back in '92 on buying $100,000 worth of IT equipment when we had simple acquisition. And we looked at it in terms of full and open, simple acquisition, broad agency and government-wide, and what were the laws that dictated it and what were the regulations that dictated it, and how long would it take to do this.

I think we need to go back and do that kind of analysis but, more importantly, try to understand who are all the people along the path who have to touch this and what value do they add? And then come back and say, does this make any sense?

Now, DOD has a very interesting opportunity at the moment. According to Gates, DOD is going to need to hire 285,000 new civilians in the next 10 years. So doing this kind of analysis, you can say to people – at least those who are civil servants – you're not going to lose your job. You may do something different. But in the past, trying to do this kind of analysis, people would be terrified they would no longer have a job. So I throw this out kind of as a thought, but I will tell you, if you don't understand the process, you don't know what to fix.

MR. CHAO: AT&L has this great spaghetti chart – I don't know if you've ever seen it – that sort of shows all the steps of the process, and it looks like a spaghetti chart.

I would also note, though, just as the industry is amazingly adaptive and creative in terms of coming up with solutions, frankly, so is the building. And that's a reason why there's another barbell in place.

If there's a barbell-shaped industry, there's also, I would argue, a barbell-shaped Pentagon; one that's sort of focused on the high-end fight, the long-term fight, the one that has the normal acquisition process. We have built eight or nine rapid-acquisition processes that short-circuits that just like we created DARPA to short-circuit a ponderous process in other ways.

John has had long-running discussions about is that the right way of doing it or do you get the entire process to work that fast? The answer has been, we've been creating bypasses in the last eight, nine years to go exactly around that process in order to do that.

Now, inevitably, any time you're moving that fast that quickly, things are going to spill off the table; there are going to get goofy things. Now we have a whole bunch of hearings and GAO reports and we're trying to sort of catch what's going wrong there and bring it back in line.

But I think that's been one of the phenomena in the last eight years, has been the creation of this entire bypass mechanism just like DARPA was a bypass mechanism for the process. And the central question is, do those mechanisms survive, do they become the operative ones or do they now fade away once a war imperative goes away?

MR. BOVIN: Mitzi, your question also really illuminates several other issues that I think are very interrelated. Again, fundamentally, as a businessman, I would never look at solving a problem in terms of deciding how many people I have to hire. I'd want to know what I'm trying to achieve and then I'd backward-integrate into the number of people I need. That's not what is currently going on. I don't think the number of people is a metric other than for –

Q: Is this in industry or government?

MR. BOVIN: Either one, either one.

Q: But they have different requirements. You can't fire civilians.

MR. BOVIN: You're making my point precisely. (Laughter.) So if I can't fire a civilian, why am I adding a quarter of a million more?

Q: Oh, he wants – (inaudible, off mike) – because they're retiring is why and he wants to get rid of the contractors.

MR. HAMRE: But could I jump in to say I think the problem with this insourcing thing is administering aspirin but we don't know what the cause of the fever is. And the cause of the fever is we've had 17 years of pay caps on civil servants, so the best and the brightest aren't going to stay around in government when, in the first 10 years if you're good, you'll be within 90 percent of your lifetime earning potential, so you get out.

So you can insource all you want, but I'll tell you what you're insourcing: You're insourcing junior people from industry into GS-15 jobs because it's the only place where the pay matches. And how long are they going to want to stay in that job? Not very long. We are not addressing the fundamental cause of the fever. We're just simply giving aspirin. And that's the problem we've got here. We've got to start assessing this in a different way. Tony Tether?

Q: I really don't know the answer to this question but the thing that we haven't addressed is the composition of the defense industrial base. Maybe we really do need two shipyards for national security reasons, you know? If we only had one, would we really feel comfortable that we only had one? Because that one may go away and somebody may buy it.

And that's an issue that I know the Defense Department doesn't really tackle very well. In fact, the only organization that tackles that is the Congress. Now, we say sometimes they've got a constituent, but for the most part, they give some really deep thought in Congress on that issue.

Microelectronics: We're down to, in this country, maybe one foundry that we could really count on. And that foundry, by the way, IBM, is talking about getting rid of it. So then where will we be? We'll have a country that depends on everything we have in microelectronics and we won't have the capability to go get it except to go to some foreign country and try to get it. And maybe that foreign country is going to decide they don't want us to have it.

So maybe if we took a look at the composition of the defense industrial base, we would come to a different conclusion. It may not be the best financial conclusion for making money and investing, but it may be a conclusion that you need to have to have a secure national security.

MR. CHAO: And particularly at, again, that matured side of the marketplace, I almost guarantee you it won't be financially optimal, and it probably shouldn't be. And the only way I would argue – that's why I think you need to separate out the left side of the curve where there are lots of programs and lots of innovation and lots of things and the market can take care of itself because you have a true market, you have enough of a dynamics.

And in fact, in that case, you would argue you don't want to be making those decisions because you may be choking off innovation too soon, right, so there was this whole thing about the Air Force taking over all UAV buying and in some ways it was sort of like, boy, that's starting to neck down to kind of one-too-early. So let everybody innovate and do all kinds of crazy things.

I think it's at that back-end, the more mature side, where you need exactly that strategic analysis: What's important to me, where do I have an asymmetric advantage, do I want to preserve that capability? And if it's two that I want because I'm afraid that if another Katrina occurs, I'm going to wipe out half my industrial base or shut it down. And we flat-out say, I know I'm going to have to pay for it; I'm going to pay for it.

Unfortunately, the mechanism that works now is it's not that strategic so, ironically enough, I have a very well-protected black beret manufacturing industry and yet I've got semiconductors going out the backdoor into places that I'd be very nervous about in the grand scheme of things.

MR. BOVIN: If I could add one thing to that. Tony, President Eisenhower worried about a muscle-bound United States with a great military and a weak economic heart. You know as well as anyone, if not better than anyone in this room, about the pace of technology.

Since World War II, we've had a rich man's military. We've made no tradeoffs. We've bought everything we felt we would possibly need. And it's resulting in exactly what you're saying and what Gen. Pace was asking about, which is, oh my god, industry on its own is starting to make decisions that affect what our policies are going to be going forward.

And that's why there has never been a more important time for a clear discussion about what really are our priorities, what is it we have to preserve and protect and what are the other things that we're prepared not to do that to.

The problem is, those are very complicated issues with lots of people who want to weigh in on them, but we're very worried about the single points of failure in space, the single points of failure in technology, the single points of failure on things that, when we need them, we may not be able to get.

MR. CHAO: And I know this is an old bugaboo and I'm compelled to bring it up, and this is where the actual controls sort of topic also comes up. I know for a fact – and I'm sure you're aware of them too – of companies that are deliberately putting IP overseas in order for it not to be "trapped" in our system, quote, unquote. And I know for a fact of companies that are getting rid of their U.S. DOD-oriented businesses in order to be able to have unfettered access to the Chinese commercial markets. And that ought to scare the heck out of you if you're an American.

MR. HAMRE: Now, I've got too many – I've got three people that've asked questions. We don't have enough time for all three but I'm going to get the questions, I'm going to have them all raise the questions, you guys kind of keep track of what you want to answer and then we'll wrap up. Start back here? Well, I've got four, now; I've got five, now. It's like an auction. Go ahead.

Q: Good afternoon. I'm Glenn Lamartin with BAE Systems. And the last discussion just started to touch on my question. We've had a very interesting discussion this afternoon, thank you, looking at the industrial base but through a U.S. lens. So my question has to do with the challenges and opportunities of a global defense industry and a global defense market.

MR. HAMRE: Okay, great question. Let's go right back here.

Q: (Inaudible, off mike) – I'm a consultant and a senior fellow at Potomac Institute. We're getting more and more the terrific ability to become computational and understand the world as a complex, adaptive system. To that end, there are a lot of people that actually build things as a complex, adaptive system. So is there a value proposition in looking at systems builders as the prize? Sun, Intel, Microsoft, HP, Apple – and then grafting on or integrating the hardware part?

I'll give you two short – very short – Navy examples: One, the original LCS CONOPS that Adm. Clark signed out was designed – that he signed out to industry – was designed as a system of systems; it was turned into "big iron"; 'fig light; everything you wanted in a 'fig and less.

The second example is there were a bunch of guys at the Strategic Studies Group about three or four years ago that said why don't we do exactly that? Talk to some of these systems providers, have them become the primes and then let either sit at the same table – Northrop, Lock Mart – or let them be one tier below on the acquisition. And I'm just wondering if there is a value proposition in that line.

MR. HAMRE: Okay, right in front of you, the guy is going to stand up, you hand him the mike; 35-second question.

Q: Vic Fiebig, Electric Boat. Along the lines of the shipyard consolidations in the private sector – I ask this question as a career submariner, mainly – one of the largest suppliers of maintenance on nonnuclear ships is foreign oil. The winner of the LCS contract is going to be foreign-owned. What is your view of foreign ownership of one of the large nuclear yards?

MR. HAMRE: Okay, and then Jerry up here in the front, and let's get the mike up here to this woman here. And I've got one cyber question I'm going to add but you can go right ahead.

Q: Jerry McGinn, Northrop Grumman. One of the themes you've been talking about on the panel is the need for clear government guidance to help guide the industry. In both the U.K. and Australia, they developed government strategies for industry – the Defense Industrial Strategy in the U.K. and similar in Australia. Is such a thing feasible in the United States given our congressional structure or is that something we should task Mr. Lambert to be doing on behalf of DOD? Is that something that would be worthwhile for industry and for government?

MR. HAMRE: Okay, and then let me just add one. We had an audience out in cyberspace and one question that came back from them is, we've countered on competition through the years to give us innovation and if we're not going to have a competitive environment, how do we view an invasion going forward?

Okay, so let's just – I'm just going to let you guys pick and choose what you want. I'm going to keep a lid –

(Cross talk.)

MR. NEWMAN: I'll do some of this foreign stuff. (Laughter.)

MR. HAMRE: This foreign stuff.

MR. NEWMAN: Now that I'm a foreigner. (Laughter.) Actually, I think something that's lost in this foreign-ownership concept is that DOD, and I think others, think that because your company is foreign-owned that all of a sudden you're a foreigner and you've got agents infiltrating your business.

There are rules and procedures that every Defense contractor goes through, so you have security procedures, you have ITAR procedures and laws. And if you break those laws, you go to jail or get shot. And the truth is, just because there's a shareholder someplace, that doesn't mean that shareholder is infiltrating the business if it's a U.S. business. That U.S. business stays a U.S. business. And there is no reason why the ownership should be of concern.

I know that there's a concern about investment. What if that foreign owner decides he doesn't want to invest in that business anymore? The government has the right to fix that because you can set it up under a structure to make sure that the parent has to fund the business.

Or, the government always has the option of nationalizing the business or selling it to somebody else. That actually is a real option. You go to war and – I mean, you look at World War II, how many companies were owned by German entities, and they nationalized those businesses until the war was over. So it's not as big a concern as you might think.

MR. HAMRE: Concluding comments on any of the –

MR. BOVIN: We could spend another panel on the whole thing. I'd like to pick up the question about innovation because it goes to the heart of a lot of what we talked about here. Technology timelines are significantly shorter than business timelines or budgetary timelines.

And any attempt, in my opinion, that we're going to control innovation and so forth for the good of the U.S. military and be able to channel that into ways that help us first, I think are doomed to failure. And Tony Tether might have some views on that. But technology is pervasive, it's global and we need to be able to get access to technology wherever it is the best.

We'll talk about cyber in a moment but I think the key should be that the Department of Defense should be a very welcome home for anyone who has technology that is helpful to a problem that DOD has to handle. And at the moment, it's very hard to see why that would be true.

So my comment on innovation is, you've raised a very important issue. There are huge barriers between what's happening in innovation and technology and what this customer should be interested in and wants to take advantage of. And if we can reduce some of those barriers, I think we can make a lot of other things happen.

MR. HAMRE: Pierre, you get the benediction.

MR. CHAO: Yeah, this is like speed dating. (Laughter.)

MR. HAMRE: It worked well for you, buddy. (Laughter.) I've met his wife.

MR. CHAO: That's definitely true. (Laughter.) International: I would make the remark – and particularly on the left-hand side of the barbell – the fight of today, that a lot of the technology we have deployed have come from overseas.

I think there's a very rich role for tapping over in international technologies, right? Four out of the five MRAP designs were overseas designs; two out of three LCS designs, et cetera. We'd be crazy not to tap into that kind of technology.

And I would note a lot of foreign countries are better at developing those types of technologies because those are the fights that they face every day as opposed to our systems tend to be too high-end for that. That's like the "cats and the kittens" dilemma. So if you presumed they were going to be staying in these little wars for a long time, we want to be able to tap into those technologies.

The issue on the systems-integration side, there is a role, but I think what we've been finding out is a pure systems architect, systems integrated that doesn't have domain expertise deep inside is just a theoretician, right, and so in this whole question about how vertical do I need to be in order to understand that overall complex system has been the central dilemma.

There's a policy issue there because we're always concerned about vertical integration in the industry. And so the question is, how much do I really need to know about the radar of the system in order to be that integrated? That's being sorted out.

Foreign ownership: I think Mark gave the exact answer on the shipyards. We have things like proxy boards and SSAs that's in the way.

Industrial strategy: The flaw with that – it's a nice piece of paper. It has to be matched with the budgets. And the comptroller will tell you if it ain't in the budgets, it's not real. I would argue, if I can just get a dialogue where the CEOs can sit down with the J-8 or the eights once a quarter, you'd go a heck of a lot further in industrial strategy overall.

And competition for innovation, how do you sustain that? My pet thesis I still love is the notion of prizes. Look at what DARPA gets away with. The Robotics Challenge, you had, what, a hundred companies show up, the million-dollar prize. I had a hundred companies. I actually called them all up and asked them how much they invested. There was $115 million invested to chase that $1 million prize.

It would never fly the Congress but if I could put out there in a $10 billion contract, the first person that can get a single-stage to orbit for a thousand bucks a pound, I'd bet you I'd get $30 billion to chase it to get that $10 billion. It would never fly in reality but if you wanted to get some real innovation going, drop some – most of the innovation in this industry, I would submit, particularly on the aeronautics side, was in chasing prizes.

MR. HAMRE: Listen, we have to wrap up because the hotel has another event coming, so we've got to get out of here. (Laughter.) First, let me just say, thank you to all of you for coming. I was delighted you were here. Let's thank our colleagues for a truly remarkable presentation. (Applause.)

(END)