

Nick Burns: [00:06](#) [inaudible]. Good morning everyone. Good morning everybody. Thank you for being here. Good morning. It's great to see this group on our third day. Thank you all for your loyalty to this program. We appreciate it very much. Um, I just wanted to give you a couple of highlights about what we're trying to do today. You've seen some consistent themes over the last two days, the importance of alliances. We're going to talk about that today. The importance of handling the threat of cyber espionage, cyber crime, cyber invasion of our elections. We're going to talk about that today, the importance of regional threats, nor we talked about Iran yesterday. Today we have a panel on North Korea and we're going to hear from the Trump administration today from my friend and former colleague Under Secretary of defense, John Rood. He's just arrived. You saw the under secretary of the Treasury yesterday. Talk about our and sanctions.

Nick Burns: [01:02](#) John has a very broad purview, uh, for American defense policy and national security at the Pentagon. He's a number three official in the Pentagon and he's gonna talk to us about his challenges. And we're also going to hear from Congress. I'm really pleased that a congressman, Mac Thornberry is here and congresswoman Alyssa [inaudible] and they're going to speak together. Julian Barnes is going to moderate that discussion about a congressional perspective and both of them are experts on foreign and defense policy. And then tonight in Greenwald at the 10 at five o'clock, a Christian Welker of NBC News is going to interview Congressman Adam Schiff about, um, threats to the United States, uh, particularly, uh, from Russia, uh, and from cyberspace. So all that is on the agenda today. We're going to start today with a very important panel moderated by David Sanger of the New York Times and it features a general Tony Thomas, former commander of the U S Special Operations Command.

Nick Burns: [01:59](#) And Chris Brose, who's a member of the Aspen Strategy Group now in the private sector, formally staffed director of the Senate Armed Services Committee. I think the subject they are going to talk about today along with climate change is probably the greatest challenge that the United States is going to face in the next two or three decades. How do we retain our strategic preponderance, our strategic military edge that we've held since the second world war as the most powerful country in the world as China develops new technologies powered by AI, machine learning, quantum computing, biotech, a new revolutionary set of military technologies as a race. We talked about it here earlier in the week when the first day we arrived. And that's the subject of this panel. I can think of nothing more

important for Americans than keeping our military as the number one military in the world. And David and General Thomas and Chris are going to talk to us about that. Gentlemen, welcome. Thank you very much.

Speaker 2: [03:13](#) [inaudible] [inaudible]

Tony Thomas: [03:25](#) well, thank you nick and I'll get started here while we're all getting, um, wired up. Um, it's, uh, great to be back, uh, here in Aspen and wonderful to see such a full room on the last day of the conference. This is the, uh, the truly hardy crowd here who have a giving their Saturday to, to another great set of discussions at the Aspen security forum. Uh, I'm delighted to be here with both General Thomas and with Chris Brose, uh, to people who are perfectly suited for this conversation because they come at this with such different backgrounds. Uh, Chris of course, uh, was on a staff director on, um, Senate Armed Services Committee, uh, for so long and uh, oversaw, uh, much of what that committee was, uh, doing to um, uh, work through defense budgets, reviewed defense, um, operations and think about the future. Uh, General Tony Thomas doesn't need any introduction other than the fact that he was commander of US Special Operations Command and had a long distinguished career and retired just a few months ago, three months ago, two months ago.

Tony Thomas: [04:40](#) So we have him, we have him fresh out of, of service here. Um, as nick suggested, there is no more fascinating race underway now or one that has greater implications for the United States. Then the one between the United States and China, not only over military superiority but because so many of the technologies we're discussing have more than military applications, a much broader societal competition as well. And we're going to try that to uh, take on both and it's really fitting that we are doing this on the 50th anniversary of the moon landing because that day captured for Americans are raised that they understood in extremely clear terms to the moon. In fact, the one that we may have oversimplified about what our, um, our technological superiority was. And yet in the one with China, a half century later, there is nothing quite as clear as putting two men on the moon and there are not, uh, anywhere near as clear markers as the race, the launches, the failures, the successes.

Tony Thomas: [05:59](#) In the end, the scorecard here is a lot more subtle and complex. And we're going to get into this. I wanted to start with something that is considered a security threat, but not necessarily the number one military technological threat before

we go into the the military themselves. And that is the race over 5g because if you listen to, um, the secretary of state, the national security adviser on some weeks, the president, uh, this is the major security challenge with China facing the u s and as everyone in this room knows, the United States has moved quite aggressively, really since the last security forum, uh, was over last July two bar Weiwei and other Chinese makers from the u s market. And then the go around each one of the major American allies and say, if you sign up to this Chinese technology, you may be cut out of American intelligence cooperation.

Tony Thomas:

[07:04](#)

We may not be able to base American troops. In fact, um, secretary of state Pompeo openly threatened the polls that they would not get what they call for Trump. Uh, but, uh, basically a u s presence in Poland if they signed on with Weiwei because he couldn't guarantee that the communications over that network would be secure. So first question for you, Chris, is this even the right argument? We have the right dystopian view here that if the Chinese are even in our day to day commercial networks, which the military uses some but not exclusively, that we are basically have lost the race before it begins. Thank you. Um, let me make two points on this. Uh, I, I do think it's important and I do think it's something that needs to be prioritized. I guess the point that I would make is that, uh, the United States and China are running different 5g races.

Tony Thomas:

[08:03](#)

And if you allow me to get a little bit technical, um, China's building out or the United States is building out 5g in abandoned spectrum, that's called millimeter wave. It's a higher band of spectrum. Uh, we're doing that because the department of defense operates in a lower band, which is called sub six, and that's where China is building out its spectrum, uh, or it's 5g. So we're essentially building different kinds of five g networks. Um, when you look at it, I think there's some inherent advantages to the way China's going about it. And you get essentially, uh, the greater range over which you can transmit information and there are fewer obstacles to the carry of that signal in terms of buildings or people or weather disrupting that. Um, I think this is significant because in building out these communications networks, there's an inherent first mover advantage and the United States had that in 4g. Um, China

Chris Brose:

[08:56](#)

I think has that in 5g. And if they're able to consolidate a larger share of the market, um, they're going to not only take, uh, you know, the, the, the market for 5g, but then all of the things that are going to be built on top of that. Uh, so the infrastructure,

the kinds of devices that are going to be 5g enabled, uh, the kinds of applications and services that are then built on top of it. All the things United States was able to do in 4g by virtue of having that prime mover advantage. And I think the implications for the Department of Defense are significant in that respect. Um, in the United States military operating overseas, uh, it just raises the prospect that they're going to be operating inside of potentially dirty networks, uh, that they're going to have large parts of their global supply chain, uh, potentially compromised by dirty networks. So I do think the administration is right to be concerned about this. I mean, the, the point that I'd end on just very briefly and I think we'll get back to it later, is when it comes to really thinking differently about how we build military systems and how we build, uh, military networks, battle networks. I'm not sure five g is the most important technology that's out there for re-imagining how the United States military needs to operate in the future. But where we can come back to that.

- Tony Thomas: [10:07](#) So it, what you're saying to us is it may be absolutely critical for the, for the, um, civilian infrastructure for supply chain, for development of next generation AI, uh, and so forth. But it may not be the most critical technology when you're talking about weapons system
- Chris Brose: [10:26](#) in terms of how you actually build an operate militaries. Uh, I don't think that five g is going to be the most important technology that's out there. Um, but I do think it's going to have significant implications for, uh, how the United States military might be operating overseas in a world where China has essentially consolidated much of the global 5g market, built the infrastructure, built the software applications and services, uh, that, that, that infrastructure enables.
- Tony Thomas: [10:51](#) So General Thomas was, you were running special operations command, um, having a clear UNCURL uncorrupted communications network was pretty high up on your, uh, priority list. Uh, you've heard the description that Chris's has given. Um, how would you place this 5g, um, race in with the broader military technological race? Uh, I think it's part of the, what, when it needs to be an integrated approach, uh, to make, make sure we maintain, compare or some level of competitiveness that that is superior to our adversary. Um, you mentioned that we've had the luxury of operating in pretty untrammelled spaces for the last 18 years, although, and I mentioned it when I was here last year, uh, we had just had our first, uh, re acquaintance with electronic warfare and things like that, courtesy the Russians in Syria. Um, this is an area that, um,

we have lacked, uh, competition in terms of peer competition and we've lacked an adversary that's really pushed us to the, to, to the necessary levels of competence.

Tony Thomas:

[11:52](#)

So I think it is certainly part of the integrated approach that we have to, that we have to pursue going forward. And how does it, as you rank they technologies that we need to make sure that we stay on top of, with the Chinese to the broader theme of this panel. Where would you put 5g in comparison to the other ones that that will all be discussing AI, quantum computing, everything that nicknamed in the course of, uh, his introduction there. I don't know that you could accept risks or you can accept risk. Um, but to your, to your detriment if you don't want to compete in all those correlated spaces, 5g is as I, uh, you would value. It enables artificial intelligence, which I think is the transformative and maybe revolutionary wave that we are riding right now and certainly with which the Chinese are pursuing.

Tony Thomas:

[12:42](#)

So it, to me it's all interrelated and I don't think you want to put markers down on, on, uh, know, uh, you know, less than substantial bets in the future that, that are going to play out. Well, that's a good way to segue into our, our broader, um, discussion of, uh, military applications. So you mentioned how AI is sort of the going to be the basis of all the future of competition. Um, when I talked to your colleagues in the Pentagon, I get a very, um, split view on that question. Uh, there is a group of, uh, futurists, people in the office of net assessment, others who are thinking about the fours five years from now or 10 years from now and saying, you're going to have to adjust to a world in which decisions are frequently made by machine, or at least the data is lined up for it, that we're going to be moving in a much faster tempo and so forth.

David Sanger:

[13:38](#)

But then you go through the vast rest of the Pentagon and you hear discussions about renewing weapons systems that we've had since the 1970s and the usual arguments with Congress about those. And you look at the budget, even the budget that, um, the Democrats and Republicans recently, uh, passed on just in the past couple of days. And it's overwhelmingly four technologies to which you couldn't even retrofit AI applications. So talk to us a little bit, since you're just coming out of a war fighter territory of how that looks, what, what you've got and what you think will have to be, what kind of systems we're going to have to have five or 10 years from now? Well, I think you're sensing of the Department of Defense and um, as a personal opinion, but from my experience, um, is accurate. Uh,

in that, uh, initially there was great apprehension about data. We are afraid of data.

Tony Thomas:

[14:29](#)

Um, it was all about protecting networks, which is certainly appropriate, but it was nothing about offensive application of data, leveraging data to the degree that we can. Again, we've, we've got to have a series that are demonstrating that right now you think of what the Chinese are doing from a security standpoint. These have either weekers, uh, internal state security, but, but what, what that market might portend for the future. Um, it's, it's, uh, it's attention getting, um, we do have folks in the department, I'm one of them that think that thinks that AI place applies to everything we're doing now and everything we're going to do in the future. I cannot find an exception. In fact, that's what I challenged Socom. Um, that if you find an exception, please bring it to me. But you need to embrace that aspect going in or we're gonna have a divergent discussion.

Tony Thomas:

[15:12](#)

It implies we better educate ourselves if you read, you know, McAfee and Brynjolfsson, um, uh, most of our senior leadership suffers from the hippo complex. We're the highest paid person's opinion. Uh, we can spell AI, um, but we don't wrestle with it every day, uh, to the point where it hurts our head. Um, but, but actually integrates it from a practitioner standpoint. Um, but it applies in my mind to everything we're doing. We're, we're, we are behind in terms of embracing that. I was lucky to get kicked in the Shin by Eric Schmidt back in the day, just to give me an assessment of where we were from SOCOM. And from that point on, we've been zealots about trying to integrate. We've been able to do it to some scale in the current counter-terrorist fight. Um, but to your point, and this is why I think it's so important, we've had the luxury of, of decision making that hasn't been as compelling as a pure adversary or an existential threat coming at us where the speed of decision making is almost unimaginable. Um, and humans will fail in that effort. Um, if we don't leverage the machines to the level we can, it gets that, you know, that critical, uh, discussion point of man or woman in the loop on the loop, et cetera. Uh, but I think it's going to become moot when we, when we actually pushed to the point of, of, uh, or to the definition of the speed of a decisions that have to be made.

David Sanger:

[16:26](#)

So Chris, give us a little bit of a reality check here. So you were living at that wonderful intersection between Pentagon realities and politics on Capitol Hill. So, um, when you were a staff director for, um, the armed services committee, first of all, how much of this modernization debate that we're discussing here,

the application of AI, even the five g issues we were discussing, future of computing actually dominated the discussions of the Armed Services Committee and the broader Senate.

Chris Brose: [17:02](#) Uh, I guess the diplomatic answer would be not nearly to the extent that they need to. Um, predominantly we've got a defense budget that is built around exactly the kinds of traditional legacy systems that you referred to. Um, we spend an excess of \$700 billion a year on our military and much of it goes to, you know, developing, buying, maintaining, crewing, those kinds of systems. Um, those kinds of systems are built across the United States and there are a lot of vested interests in, uh, continuing to do that work. Um, I think what's revolutionary about these technologies is that they're not going to make those kinds of systems incrementally better. Um, they're ultimately going to displace them. And I think the greatest failing that I see that I saw when I was in Congress and that I still see now is just a complete lack of imagination, a failure of imagination for how these technologies are going to transform, should transform how we build our military, how we operated overseas.

David Sanger: [18:01](#) So to give us an example, we spend an enormous amount of time arguing over whether we need an additional one or two aircraft carriers. Right, right. What would your answer be to that as you look out to these technologies?

Chris Brose: [18:15](#) I think we, we tend to have the argument over cost, right? So buying two aircraft carriers is probably cheaper per carrier than buying one aircraft carrier. Um, to me the question is effectiveness and survivability in the future. Um, you know, in China you have an adversary, uh, or military that spent the past 25 years building a multimillion dollar weapons to go after and attack are multibillion dollar systems and they've been quite effective at developing these kinds of anti-access and area denial capabilities. Um, when I look at, you know, the kinds of military systems that we need to be building in the future, uh, I think we need to move away. And I think the technology that's, uh, coming online now enables us to move away, uh, from these highly concentrated, very exquisite, very expensive, very hard to, uh, you know, hard to operate, uh, very hard to replace systems. Um, particularly when you have an opponent that has spent a quarter of a century building, uh, military systems and doctrine to attack the limited number of small things that we have.

David Sanger: [19:18](#) Let me do this by example. Um, during the Clinton administration, Secretary Albright will remember this moment.

Well, uh, there was a moment when, uh, President Clinton ordered a carrier just to the, the sort of top of the Taiwan Strait because of concern about, uh, trying these military activity threatening Taiwan. Um, it was a big shock to the Chinese that we actually went off and did that. If we were doing this today, and I asked this question to both of you, um, would any American president take the risk of putting an American aircraft carrier in that spot in the Taiwan Strait?

Chris Brose: [20:01](#) I think if we're talking time of war where there's a real potential for use of force, um, let's put it this way, I wouldn't want to be on that aircraft carrier if it were deployed there. Um, I think that, you know, when that carrier was deployed by President Clinton, the Chinese couldn't even find it. And they've spent 25 years not only figuring out how to find systems like that, uh, but how to overwhelm them with very large volumes of precision weapons. Exactly. The kinds of weapons that the United States is, you know, been expert in since Desert Storm. Um, so the short answer is no. I, I think the, the future president, the United States would look hard at that and say the risk of a \$14 billion system with 5,000 Americans on board ending up on the bottom of the ocean is not a risk he's prepared to take

David Sanger: [20:41](#) general Thomas, when that moment came in the sit room, you sat through many of these and some of the chief of naval operations had to speak up to the president about the risks of putting a carrier of air. What, how would that conversation play out?

Tony Thomas: [20:56](#) Yeah, I think unfortunately, I'm an army special operator, so don't take this as carrier bashing. I've, I've spent a lot of time on aircraft carriers. I think they've been historically the greatest power projection platform that the country is owned and operated. Their time may have come and gone. Um, if you cannot survive in that environment that Chris just described you, you still have to put people out there, implies that you might actually play the next step and go to war. Are they survivable? Um, and w but the opportunity here though is, it's not just cause I know we mentioned AI, we have a conflation of opportunities in terms of unmanned capabilities that it's extraordinary. Amman, unmanned everything. Uh, ship's ground mobility, ground mobility, vehicles, aircraft, you know, the, the, the, the limit are there. It's almost limitless that we have to start pressing for, uh, in the very near future.

Tony Thomas: [21:43](#) And that that is, you know, a strategic advantage if we accept it. But, uh, unmanned, you, if you, if you go into the unmanned discussion in almost every corner, you'll run the, into the

manned lobby of it's been my livelihood or it's been my industrial focus. You know, how could we go here and not drop something? Well, it's time to, it's time in my mind to accept that risk. And coincidentally with the biggest budget we've ever had. So it's not a matter that we don't have the resources to recap and reorient on what we can and should have in the future. It's right now, the opportunity is right now we can't afford just iterate.

David Sanger:

[22:17](#)

You'll notice that the argument in, in Congress was overwhelmingly over the size of that budget and not really about reorienting it and the technologies that we're just discussing. I mean, I, and I think this is, uh, I think this is a complaint one could make equally about Republicans and Democrats. Is that fair Chris? Oh yeah. I look, I think we don't spend nearly the amount of time that we should asking what are we spending the money on as opposed to how much money are we spending? And we do this with respect to our NATO allies as well. You know, the metric is 2% of GDP. Um, you know, I could imagine a 2% of GDP that's really good for us and I can imagine a 2% of GDP that's not, um, we need to have the conversation and really put the focus on the shape and capability of the military that we want.

Chris Brose:

[23:06](#)

Um, look, it's going to cost money. I'm not sitting here suggesting that, you know, the military I envision is going to cost 50% of what we're currently spending on national defense. Um, so the money is important. It has to be there and the stability and the funding has to be there. Um, but I think we need to spend a lot more time asking the question, what do we want the u s military to look like and be able to do in the future? Well, one thing we want to be able to do his project powers. So the argument you will hear about the unmanned systems is that the ones that we've deployed at least so far, don't give us the kind of ability to project power that we have with our man systems. That's what you would hear in the Pentagon. All the, that you, you know, you've heard this, I'm sure plenty, plenty of times. Um, is that wrong?

Tony Thomas:

[23:51](#)

I think it's shortsighted. I think it's unimaginative. Um, I, I, I can't imagine what we couldn't do. Unmanned. So policing the streets over moves right now is a very dicey business with man platforms. I think you, you know, the tasks that we're conducting, I can, I can see, I can visualize. You could do almost all of that unmanned in the near future. And that, and the problem, you mentioned it earlier, every time we talk about these things, it's the five-year out, maybe five-year out approach or five-year out. It might happen. I just spent 40 years

in the five year out experience, um, and, and we wished some of these things away. So it's time to embrace it. Um, it's gonna be uncomfortable, but no, no, we probably have not had a better opportunity to, and truthfully, we've laid the formative stage. You've got an executive order out there that says, Orient on this phenomenon.

Tony Thomas: [24:39](#) Um, we need to then put some meat on the bones. Uh, you and I, you know, uh, Chris and I both work with some AI companies right now. Every AI company I deal with, I asked them, who are your contacts and contracts in Congress? Who are you working? Uh, and usually I'll get the stunned look of, Ooh, that might be a good idea. Absolutely a good idea when we have to, when they're gonna address it with policy and strategy and resourcing, they need to embrace this thing. It should be part of their daily dialogue. Among the other things they're dealing with.

Chris Brose: [25:06](#) Can I make a quick point on our end, because I think this is [inaudible] illustrates what I'm talking about. You know, we talk about unmanned systems. Um, the irony is that the unmanned quote unquote systems of the United States military actually require dozens of human beings to make them operationally relevant. Um, so the types of aircraft that, uh, you see operating in an unmanned fashion are being flown remotely by a human being. The sensors are being steered remotely by a human being. There are legions of human beings processing the information that are coming off of them. You know, to me what's revolutionary about artificial intelligence, autonomous systems is that for the first time in human history, you can actually have a single individual commanding large numbers of systems rather than needing large numbers of people to command a single system. And when you invert that ratio, I think you can imagine how vast the battle network grows, right? So where right now our limiting factor is our availability of people. Um, you know, when General Thomas has, uh, you know, was operating in his career and needed more intelligence resources, it wasn't because we lacked drones, it's because we lacked people to make them operationally relevant. And I think the technologies that are now becoming available are, are enabling us to reimagine how those systems are built such that a single human being can now be in command of multiple systems at the same time.

David Sanger: [26:21](#) I want to get to the autonomy in just one moment as wanting to ask general Thomas to go one more beat. And your very intriguing thought that it would seem very different in the Gulf of Oman right now if we could do this all with unmanned

systems. I mean obviously we lost a drone a few weeks ago and the president pulled back from an attack saying, you know, nobody was killed. So fortunately, so you can create more space by doing that. Give us just a couple of sentences about what an unmanned force guiding those tankers and dealing with the swarming small boats from the Iranians would look like. Um,

Tony Thomas:

[26:59](#)

but I read something recently. It was, it was intended to be futuristic, but I didn't, I don't think it pushed that far enough out. And it actually reminded me of the incident where we shot down the Iranian airliner. We shot down in a radio, an airliner, bad decision. Um, but it was a, it was a, um, um, a similar scenario where I'd, uh, manned a naval platform in, in the streets. Um, had already had, uh, you know, a, a, an altercation. They'd already taken battle damage, uh, from incoming Iranian missile systems. Um, and at the point in this, in this description, um, it talked about the captain who was under unbelievable duress at the time. Uh, he had, there was inbound bogeys, he thought again, or he was, uh, discerning an inbound threat. He was worried about the critical casualties below on the deck. And my margin comments, I'm one of these dummies that writes in the margins of every book that I read, I think, um, but at the time it just struck me as wasted human emotion and bias at that point. A tired, frightened captain is trying to manage all that, where automated systems can discern that threat and if need be, eat the incoming. Like if it isn't an Iranian airliner, I don't know. I don't know. I don't know. I take the incoming round and I've lost an unmanned platform and I'll push another one out there to, to replace it. Uh, but are the lack of imagination for how we could replace, you know, the vulnerabilities, the risks that is inherent in the missions we're doing I think is part of the consideration too.

David Sanger:

[28:24](#)

So this autonomy question takes us to a really interesting issue. I can't tell you how many times the Pentagon would have reporters in for briefing saying we're moving toward semi-autonomous systems to do just Chris, what you said, have, you know, uh, one or two people looking out over a vast range of systems rather than having dozens or scores of people trying to sustain one. But then they would always start and say, we commit that we will always keep a human in the loop, right? That the decision to pull the trigger will be made by a human being. Not by machines that have been programmed limits left and right by the human being. We have not gotten similar briefings from the Russians and the Chinese. Right, right. Which suggests a battle space in the future in which you've got your human being in the big, in the middle. They're subject to all of the stresses. We just heard from General Thomas and the

Russian and the Chinese attackers are, have moved to a fully automated system because they're not having the same ethical debate we've had within the Pentagon about whether a human being has to be the one that do the authorization. Um, is this a sustainable position the u s government has?

Chris Brose:

[29:45](#)

I'm not sure how much the u s government has a position on this. I think it has sort of an attitude, um, but I'm not sure how much it's really thought through where this technology is going and how quickly it's going to, you know, kind of move them forward. Your point about China and Russia's, right? I mean, look, the Chinese system, if it's built on anything, it's built on mistrust of its own people and an unwillingness to empower them for, you know, so let's not think for a second that they're not going to take that human being, you know, exactly out of that loop that you described. Um, I think the, the thing we need to spend a lot more time on, I think a lot of the terminology we use human on the loop in the loop. Uh, it obscures more than it explains and I think there's a tendency to jump to the conclusion that the technology is also new and unprecedented.

Chris Brose:

[30:29](#)

That none of the laws and policies and practices and norms that we've developed over many, many decades to think about and govern the use of violence and war are applicable anymore. Um, and we just jumped to the conclusion, well then we just have to ban these systems or something else. Um, I think we need to spend a lot more time really thinking through how we apply those laws and policies to these new technologies. Um, I think that personally, uh, we are going to be capable of taking these technologies and fitting into those frameworks that we've used for many years, uh, highly effectively. Because at the end of the day, the decision that matters is, has a human being made a choice to use violence and everything to the right of that, um, has been increasingly automated for a long time. Uh, and it's going to be increasingly automated in the future. Um, what that looks like is going to look very different to us now and we're probably going to become comfortable with things in the future that would look very unsettling to us now. But at the end of the day, I think it's entirely possible for those systems to reflect that a human being has decided that they want to use violence in a particular context, in a protect.

David Sanger:

[31:39](#)

So General Thomas, there's no person, I could more think of one on the stage for this question than you because you, when you were at Special Operations Command, you made decisions hundreds, if not thousands of times about authorizing fire strikes. Uh, and you would have to sit there as we've discussed before and watch a screen and wait for the right human being

the walkout and make a judgment about whether or not you've got a clear shot or whether there are children or families or school kids or something nearby. Uh, and you did that with pretty high accuracy, extraordinary metric accuracy. You did that with extraordinary accuracy. Could a machine doing that job be more accurate or less accurate? And could you imagine a military leadership that was willing to go trust that decision to the machine

Tony Thomas:

[32:40](#)

instead of to you or your successors? Um, short answer is yes, I could. Um, you described as a situation that I think is a, you know, a microcosm of the type of warfare that we might see in the future that we can envision the future. Uh, but let me explain it in a little, a little more with a little more background. Uh, for the hundreds, maybe thousands strikes that I authorized personally authorized because we required a general officer to make that decision. Um, there was always that little Gremlin on my shoulder, uh, hoping we got it right. You know, that that would be because what it amounted to is what I call a God call. Um, somebody was going to die there. Um, our standard, which I don't think has been, it should have been more talked about. It's been bandied about. They read an um, uh, an economist article recently that essentially alleged that we, we carpet bomb and we do do strikes indiscriminately.

Tony Thomas:

[33:30](#)

Nothing could be further from the truth. My 17, 18 year experience, um, in, in the current conflict, our, our absolute standard was to identify with a reasonable certainty the individual we were intending to strike with an absolute criteria, CNA, Quan, none of no collateral damage to the best we could determine no women children non-combatants in that, in that location. Um, and that, that was the approach every time. And you had the luxury in, in this environment of waving off if he didn't feel right, if he didn't have it right. Um, in most cases it wasn't an imminent threat. There had been a few imminent threats that made it a little more pressurized, but you didn't have to, you weren't on that kind of a, that edge. The challenge that I offered and it was in the Er on the wake of Eric Schmidt, challenging me where we have gads and gads of analysts who are trying to look at signals, intelligence, full motion, veto video, human intelligence, other forms of intelligence to try and determine is that the individual rafter?

Tony Thomas:

[34:26](#)

Are we sure we don't have collateral realtime going into a shot though you can't imagine the thousands of people that are in that, in that production mode, um, who I think could be replaced. Uh, it's at scale, uh, by a machine learning based approach. The machines are better at determining patterns.

They've done this, you know, we will all know that the, the, the anecdotal parts across go jeopardy, uh, chest, et cetera. They can, they can analyze patterns better and faster than we can. Now, here's the point up to recommending a decision. If we have the luxury at that point of a human saying, I have the time to appreciate what, what through on the left hand side of this thing to get us to a reasonable certainty and it's going to be qualified. My biggest concern having dealt with policy makers and decision makers in the past is I would get them to subjective terms of reasonable or near certainty that this is the shot.

- Tony Thomas: [35:19](#) This is the shot we should take. We never had to put a qualifier on it. This is 99.999% sure with an outlier of, okay, how can we get that other 0.001 because it gives them that luxury and that's the slippery slope we'll go down, but the machines will get us to a quantifiable number of with this amount of percentage certainty, we think that's the right shot to have much faster than the scores of analysts that I currently have doing. My analysts don't like that by the way they and what we've been trying to get them to embrace is I want you for the more exquisite things that humans can do. Besides the rote stuff of pattern analysis, pattern analysis is machine wrote a enabled and will relieve you of the burden of trying to, you know, hand jam, literally a without a, without a whole lot of automation things that, uh, w that'll determine the patterns and then you'll be able to do more refined it and Alesis and I'll be able to make better and quicker decisions on the top of that. Let's play ball. But basically what you're arguing,
- David Sanger: [36:13](#) four is if you have the time, keep the human in the loop. If you don't, because you're facing a Chinese or some other kind of, uh, uh, attack on a much broader scale, allow the system to act autonomously.
- Tony Thomas: [36:26](#) I think you can, you literally can, can design it that way. Um, and some situations will be more pressing than others. But if we go to the subject of this discussion, a toe to toe with the Chinese, I don't think they're gonna, uh, allow us, uh, you know, decisions that aren't compressed in time and space, um, to a scale that we, we haven't done lately. We don't have those kinds of, we do, we do in the training centers, we have those kind of reps and we, and we try and drive ourselves to it. Um, but we probably need to put that on steroids.
- David Sanger: [36:53](#) Well, we have a few minutes for some questions and while I have many more for these gentlemen, I don't want to dominate

all the fun here. So, uh, who do we have right back here, ma'am? The Mike coming to you.

- Audience Member: [37:12](#) Thank you. With regard to five g and the potential for dirty networks, has the u s began development of six G and is it plausible to skip 5g and go straight to six g and if not, what is the option?
- Speaker 2: [37:29](#) Alright,
- Chris Brose: [37:30](#) uh, with regard to six G, I mean I've seen it bandied about, um, you know, it's sort of feels like you can keep taking the seven g h g. Um, I, I personally think the, the focus right now needs to be on 5g. Um, I'm not sure the technical limitations of getting to six. Um, I think we've got enough of a competition on our hands right now in making sure that we get 5g right.
- David Sanger: [37:53](#) Um, I just had one thought to that. Stepping out of my moderators role, there's a temptation to think that five g is just another acceleration of speed. The way three and four g was, it's not, it's actually not about us and our cell phones. It's actually about the Internet of things. Talking to the Internet of things, right? It's machines talking to machines, going up, getting information from the cloud and down your autonomous car, a factory so forth. We all think of it in terms of our cell phones cause we're walking around with them every day. That's an interesting peripheral addition to what this is all about.
- Tony Thomas: [38:33](#) Um, some other questions out here, right, sir?
- Audience Member: [38:37](#) Hey there. Thanks very much nick. For friend from PBS news hour. I wondered if you could, uh, both consider the question of Chinese strategic interests. Uh, uh, David brought up, uh, when the u s sent to carrier to the straight. Obviously the Chinese military and, and Chinese party leadership made a lot of decisions about their military after that point today. What is it that they want out of their modern military or they simply just trying to deter us from sending another carrier and, and kind of embarrassing them in the straight a or are they trying to, for example, take over Taiwan and make sure we can't do that, uh, prevent that from happening one day or perhaps even more. So. Could you just talk about what you see as the strategic interest of China, uh, with their modernizing military?
- Chris Brose: [39:20](#) Excellent. Um, honestly I think this is, this is the great question. Um, I think this is why we are in the kind of strategic competition that we're in. I think it's why we're in the kind of

advanced technology arms race that we're in. Um, I don't think that Washington has a clear answer to the question of what does China want. Um, personally, I, what concerns me most is that, you know, the appetite grows with the eating and what they will say today is not necessarily the thing that they will want tomorrow when they are wealthier and more powerful, more capable. You know, if you look at trends inside of their government, you know, increasingly authoritarian, you know, fewer people actually making decisions. Um, and I think you see that pattern. Um, you know, we talked about Taiwan earlier, um, for years that was the flashpoint of conflict.

- Chris Brose: [40:07](#) Um, Taiwan has been largely on the back burner for a long time, but now the debate has shifted. You know, now it's south China Sea. It's east China Sea, its declaration of an aide is over the east China Sea. It's territorial disputes with India. Um, there is an expansiveness here that I think is concerning and I don't know where it is and I think that's, you know, ultimately what the United States needs to focus on, which is having the ability to deter expansionist, uh, and aggressive actions on the part of China. Because at the end of the day, I can't answer the question of what they want. And I'm concerned enough about that uncertainty that I think we need to be in a position to ensure, uh, that, that we have that degree of, uh, of deterrence.
- Speaker 8: [40:46](#) We have a question from our maximum leader, Nick Burns. [inaudible]
- Nick Burns: [40:54](#) I asked Admiral Davidson the other night and Greenwell tent whether or not he feared that shiner could surpass us in military power in the next decade or so. And he said he thought it was a possibility if I understood him correctly. So my question to both of you and really David to you as well, what's the probability that we might lose our technological military edge to China because of this race for technological power in the next decade or two? What should we do to prevent that from happening that would be catastrophic for American, uh, power and leadership in the world? Sorry to Miss Phil's presentation that night. He was a great, he was a great teammate that I enjoyed serving with.
- Tony Thomas: [41:34](#) Um, I think it when, when we talk about military superiority, it's gotta be contextualized to what in what scenario are we talking about? Uh, they clearly have a mirror image to us, uh, have gone asymmetrical, uh, based on how we've played our hands. We have played, we have played the best team in the world on a couple occasions and showed you don't want to go toe to toe with us from, uh, from a, uh, a conventional like, you know, like

a doctrinal approach. You're, you're going to have to come up with something different. And most of our adversaries have acknowledged that. Um, but they've then gone on to, you know, investing in and developing where they have an asymmetrical advantage. So an an advantage of sorts, not necessarily in, in, in the way we've usually quantified it. Um, but part of, part of the dilemma, it goes back to the last problem and I'm not trying to give us a pass for why we don't appreciate China's strategic sense.

Tony Thomas: [42:23](#)

I think [inaudible] has been very forthcoming. He wants a world-class military read into that as good or better than ours to do something with it. Again, contextualized. Um, but as recently as three years ago, I did, I, I was CTE all the time in my previous capacity. But when I got to Socom, I started getting immersed in these discussions. Three years ago, our national policy, which the Chairman Joint Chiefs staff reminded us on a, on, on that occasion was that China was specifically a declared, not an adversary. It was our, it was our policy, our stated national policies. There's only three years ago. So think out in relatively short time, we've flipped this to, well, it seems pretty adversarial. It's been baked into our national security strategy now, our national defense strategy, we're now coming at it very aggressively from one element power economically. Uh, militarily. We've, we've, I think, started develop and are trying to keep pace with certainly, uh, economic, uh, initiatives.

Tony Thomas: [43:17](#)

And then, you know, our, our diplomatic and information space efforts better, better keep pace as well. So we're, we're not as coherent as they are. They don't have that problem. Very coherent approach to campaign design. Uh, you know, a futuristic goal. Um, and that's probably the cause of most of the anxiety that they're, they're moving out, uh, very coherently and with, uh, two huge advantages, resourcing, lot of, you know, gads of money to it and a data advantage right now that we can't even imagine. They are hoarding data and getting reps on, on data to a level that is unimaginable even to some of our major companies.

Chris Brose: [43:47](#)

Just to build on that real quick, um, to me the fundamental problem in the United States right now is a lack of imagination. If I could change one thing, it would be that, um, we talk about China as a great power. China is not a great power. Um, it's a, it's a pier. If it progresses on the trajectory that it is on, uh, it will be a pure of the United States. Uh, Soviet Union was a great power, but at the maximum peak of its power, it was 40% of u s GDP. It was isolated from the first world international economy and it didn't really have a domestic base of technological

innovation. Again Tryna could fall flat on its face tomorrow. Um, but we can't assume that from the standpoint of US policy. So if it progresses, it will surpass us GDP in a decade. It has its own domestic technological innovation base, you know?

Chris Brose: [44:34](#) Yes, it's stolen much of it, but it's developing much of it on its own and it's integrated into the world economy. Um, the, the biggest thing that I see and I go to, you know, a lot of meetings and a lot of dinners in Washington and it, it has the feel of admiring the problem. China can imagine a world where they're dominant, where they have become preeminent in their region and they have become preeminent globally. Not only they, you know, can they imagine that they are building out national strategies to accomplish it backed by hundreds of billions of dollars in investment. Um, I don't see that level of urgency in the United States. And to me, it traces back fundamentally to the problem that we cannot imagine a world where we had been surpassed, surpassed across the board, including militarily. Um, we just somehow think by virtue of the 30 year aberration of world history that we've just been living in, that it's all gonna turn out well for us.

Speaker 7: [45:25](#) And, uh, I hope that it will, but I think it's historically ignorant to assume that that's the case. I mean, we are dealing with something that, you know, we in the United States have not dealt with since the 1880s in terms of a pure competitor that has the potential of the GDP that equals us. There is literally no living historical memory in America for how to deal with that kind of problem. Um, and I think we need to fundamentally expand our imagination, uh, and increase our level of urgency to get after this. Or we will be passed in to two things.

Speaker 2: [45:54](#) No

Tony Thomas: [45:58](#) two things that have to happen to enable it is domestically pub, public private partnership, um, which, which we've been chasing for too long, but it's, it's gotta be a two way street. And the other part is that, you know, the, the, uh, almost hate to admit this, uh, but the irresistible nature of the Chinese advantage in terms of demographics and money, et Cetera, know, drives a compelling discussion for the need to do this with allies. We're not going to have a balance of power or need many, any semblance of balance of power if we don't have very, very concerted allied efforts, uh, you know, to, uh, to match up to, to, uh, that Juggernaut [inaudible]

Speaker 7: [46:32](#) vinyl tin, two seconds. I mean, it's not all doom and gloom, right? I think, look, we have tons of money. We have amazing

technology, we have incredible human capital. Um, we just keep blocking our own kicks. I mean, we need to get out of our own way. Um, I think we have every systemic advantage, you know, to be able to compete and compete successfully. And the very fact that we're now starting to compete when I don't think we've really been competing at all. Um, these are all good things. Um, but boy have we got to expand our imagination if we want to be successful.

Tony Thomas: [47:00](#)

You were kind of your question, they ask me, I have thoughts on this too and I'll just give you 30 seconds cause we're out of time here. One of the differences with the space race is 50 years ago that we're celebrating today is that we were then designing a um, space project that clearly was closely related to our missile program. And our thought was that the military advances and the space advances we've made would then spill over to commercial technology. We are now in the world of the reverse and the Chinese have been embraced that more than anyone else has, which is that we're all about the commercial technology feeding the military application, which is what Mike Brown's doing. The diux and, and a and many others are, uh, as well. And that's a very different kind of way to think about it because we've been living in the assumption that the natural forces that we have in Silicon Valley and elsewhere will stumble to us being in the lead because it worked with Google and it worked with, um, uh, Microsoft windows and it has worked with mobile computing and the Chinese are going about it in a very organized way, much the way the Japanese tried to go at it in an organized way 30 years ago.

Tony Thomas: [48:17](#)

And we're assuming somehow that they're not gonna get there the way that the, uh, Japanese sort of over planned for this, I'm not sure that's the right assumption. Well, we are out of time and we've got another great panel coming on cyber, so I thank you very much.

Speaker 2: [48:32](#)

I thank both of you.

Speaker 9: [48:41](#)

We are not taking a break, so if you can stay in your seat for the next panel, that would be fantastic. We'll have a 30 minute break after this session. Thank you. I did not hear any cell phones go off. Let's keep that going for the next session. Well, [inaudible].