

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22

DEFENSE INNOVATION BOARD  
FALL BOARD OPEN MEETING

Moderated by Dr. Marina Theodotou, DIB Executive  
Officer

Tuesday, November 14, 2023  
3:59 p.m.

Defense Innovation Board, US

Reported by: Timothy Guevara

JOB NO.: 6283426



<p style="text-align: right;">Page 6</p> <p>1 known as the DIB, and there are two main items on the                  2 agenda today.                  3 First, we'll provide interim status                  4 reports on the two studies our board is leading. Then                  5 we'll look ahead and discuss the topics we plan to                  6 tackle in our next round of studies.                  7 As we've shared with the public before,                  8 the mission of this board is to provide independent                  9 recommendations to Secretary Austin and other senior                  10 leaders across the Defense Department.                  11 All of us are on it to serve and to                  12 support a department that is a global leader in so                  13 many ways at the forefront of military strength and                  14 preparedness.                  15 The pace of change in the private                  16 sector, especially in technology, is moving at the                  17 speed of light, and all public agencies struggle to                  18 keep up.                  19 Our job on this board is to help bridge                  20 the private and public sectors in ways that help                  21 empower our men and women in uniform who face no                  22 shortage of urgent challenges.</p>	<p style="text-align: right;">Page 8</p> <p>1 focused on organizing, digitizing, and streamlining                  2 vast amounts of defense department data and doing so                  3 before the department expands its use of cutting-edge                  4 technology, like artificial intelligence.                  5 Sue Gordon is leading the former study,                  6 and Ryan Swann the latter. I'll ask Sue to share and                  7 update first, and board members will have the                  8 opportunity to comment and ask questions as well.                  9 Sue, the floor is yours. Please, go                  10 ahead.                  11 MS. GORDON: Well, thank you, Mike.                  12 I'll kick off the update to our study on lowering                  13 barriers to innovation, and I must tell you that I am                  14 so excited about this.                  15 We all know that the defense innovation                  16 ecosystem is fraught with bureaucratic overhead,                  17 inefficient processes, and self-imposed barriers that                  18 slow us down, and these impediments are really mostly                  19 born of being developed in a time long ago where the                  20 challenges and opportunities were different.                  21 So with this study, we're tackling the                  22 barriers that are easiest to tackle and have the most</p>
<p style="text-align: right;">Page 7</p> <p>1 Right now, Russia's war in Ukraine is                  2 dragging on, and Israel's is now at war with Hamas.                  3 New threads emerge every day. So the issues we're                  4 examining aren't academic or ones we can kick down the                  5 road.                  6 The recommendations we're developing                  7 are all designed to help the department's leaders take                  8 action, try new approaches, and give our brave service                  9 members the tools they need to do their very demanding                  10 jobs across the world.                  11 I'm glad to say that the board                  12 continues to gain insight from a diverse group of                  13 leaders across the defense and technology community.                  14 After dozens of different                  15 conversations, it became increasingly clear that in                  16 some cases, antiquated processes, policies, or                  17 regulations were functioning as roadblocks to                  18 innovation in the department.                  19 That reality informs the first study                  20 we'll cover today, and that is lowering barriers to                  21 tech adoption.                  22 The second study, still in progress, is</p>	<p style="text-align: right;">Page 9</p> <p>1 impact. And by "easiest," what I mean is that they                  2 are implementable, that there is no statute or reason,                  3 other than our own choice, that should stop us from                  4 implementing these policy, procedural, or process                  5 changes.                  6 And here's the way to think about it.                  7 By removing these barriers, it will enable us to move                  8 faster at scale to deliver outcome. My motto is, oh,                  9 you wanted to use it.                  10 So this sounds small and narrow. But I                  11 think what it will do is deliver meaningful, tangible                  12 impact to how quickly we're able to move and get good                  13 solution developed by our partners in the private                  14 sector into the hands of those that need it.                  15 So before we invite our guests to offer                  16 their perspective that you really ought to listen to                  17 on these key barriers, let me quickly turn to my                  18 teammates on this study to see if there's something I                  19 missed or something you want to add.                  20 Admiral Mullen, I'll start with you,                  21 and then we'll go around the horn.                  22 MR. MULLEN: Yeah, Sue. I guess,</p>

Page 10	Page 12
<p>1 because I know we've obviously spent some time on</p> <p>2 this, can you maybe highlight just a few of the kinds</p> <p>3 of things that we're looking at, at this point, what</p> <p>4 the areas that we see barriers and that we might be</p> <p>5 able to do something, you know, given also we're not</p> <p>6 through this thing yet.</p> <p>7 MS. GORDON: Yeah, so the areas that</p> <p>8 we're -- thanks, Mike, should have done it.</p> <p>9 The areas we're looking at are</p> <p>10 everything from security processes, whether that is</p> <p>11 individual security clearances or secure facilities,</p> <p>12 and their broad use to the authority to operate in a</p> <p>13 secure ecosystem to personnel practices to the</p> <p>14 acquisition mechanisms themselves, everything ranging</p> <p>15 from the ASC that we have or the data that we need to</p> <p>16 receive.</p> <p>17 So think about all the areas of the</p> <p>18 innovation process involving our people, our security,</p> <p>19 our acquisition systems, and our information systems,</p> <p>20 if we can look at those to make sure that they are</p> <p>21 tuned for the moment in which we find ourselves,</p> <p>22 rather than for the processes that we've held over so</p>	<p>1 areas with logistical restrictions to keep pace with</p> <p>2 near-peer adversaries.</p> <p>3 So, Matt, thank you, so much, for</p> <p>4 joining us today. Thank you for making time to be</p> <p>5 here. The floor is yours. You have five minutes.</p> <p>6 Thank you.</p> <p>7 MR. PINE: Thank you, Doctor. Thank</p> <p>8 you, Board, for having me.</p> <p>9 So I have two full points that I'm</p> <p>10 going to address today. You've actually hit on these</p> <p>11 already. But I'm just reinforcing them.</p> <p>12 So single greatest barrier that we face</p> <p>13 is the acquisition and approval process. As we know,</p> <p>14 it takes three to five years to vet and approve</p> <p>15 anything to get from R &amp; D into the hands of the war</p> <p>16 fighter.</p> <p>17 Part of that comes from us going from</p> <p>18 over 50 primary companies down to essentially five in</p> <p>19 the last 30 years. That took our industrial base and</p> <p>20 created an industrial pillar.</p> <p>21 As a result, the industrial-based tax</p> <p>22 payers and service members are all suffering due to</p>
Page 11	Page 13
<p>1 many years.</p> <p>2 Any other members want to jump in?</p> <p>3 Well, Mike, I'm going to take that as a</p> <p>4 sign of the clarity of the study and more, that</p> <p>5 everyone can't wait to hear from our speakers about</p> <p>6 their perspective.</p> <p>7 MR. BLOOMBERG: The silence is a</p> <p>8 compliment in this case.</p> <p>9 MS. GORDON: I'll take that. I'll take</p> <p>10 it, Mr. Chairman.</p> <p>11 MR. BLOOMBERG: Marina, we had some</p> <p>12 speakers. Would you introduce them?</p> <p>13 DR. THEODOTOU: Yes, sir. So we're</p> <p>14 delighted to welcome our speakers today that will help</p> <p>15 us understand a little bit more what they're facing,</p> <p>16 what kind of barriers to innovation they're facing on</p> <p>17 the frontline.</p> <p>18 So first, I'd like to welcome Chief</p> <p>19 Warrant Officer Matt Pine, who currently serves as</p> <p>20 Future Operations Officer for the 1st Maintenance</p> <p>21 Battalion in the US Marine Corps and is working to</p> <p>22 reshape maintenance and supply support concepts in</p>	<p>1 the monopolies, cost, and lead times. These can be</p> <p>2 stemmed from various reasons. But if I'm the sole</p> <p>3 source of supply, I don't have to be good at it. So</p> <p>4 we haven't created a lot of competition.</p> <p>5 Additionally, as we know, casting and</p> <p>6 forge parts are difficult to get, and we're working</p> <p>7 through innovative solutions to find those.</p> <p>8 There are other tools available to</p> <p>9 bypass the system. But you're working within and</p> <p>10 around the system, rather than it being a standard.</p> <p>11 An example of something that's very</p> <p>12 restrictive right now is Section 848 from the 2020</p> <p>13 NDAA, which kills drone proliferation.</p> <p>14 And a prime example that I see that</p> <p>15 regularly, we do innovation training in Okinawa</p> <p>16 through a company up near DC, and they do their actual</p> <p>17 drone training off base, because it's easier to get</p> <p>18 access and approval to operate in Japanese areas than</p> <p>19 it is to fight through the red tape and get caught up</p> <p>20 with what industry is actually doing, because the</p> <p>21 policy is slow to change.</p> <p>22 So recommended actions for that,</p>

<p style="text-align: right;">Page 14</p> <p>1 streamlining acquisitions, rapid fielding, and                  2 promotion of competition. Some of that's already                  3 being worked. I know that's continued to be addressed                  4 by the DoD.                  5         And then the last piece is requiring                  6 technical data as we acquire equipment. It's great                  7 that we're buying all of this and we're pushing this                  8 out to the war fighter. But we're getting it with no                  9 technical data and no way to maintain it or fix it                  10 when we need to at the point of need.                  11         The results from this, if we streamline                  12 our acquisitions and broaden the industrial base, we                  13 can promote competition and enforce technical data.                  14 It will allow us to truly learn the systems inside and                  15 out and enable us to repair it when we need to repair                  16 it and where we need to repair it.                  17         The contracts don't do us the justice                  18 that we need. I saw this firsthand in Afghanistan.                  19 There were contactors in place to do maintenance, and                  20 I was the marine going out and doing the maintenance                  21 that they were there to do, because they simply                  22 couldn't get to where they needed to get to.</p>	<p style="text-align: right;">Page 16</p> <p>1 learning the process. You can't break the rules                  2 properly if you don't know them. That's my motto.                  3         Actions, so internally, we need to                  4 encourage leaders across the DoD to understand and                  5 question why we do things, rather than just saying,                  6 "Hey, that's the policy. We have to do it."                  7         We can't change the status quo for                  8 afraid of questioning, and a lot of leaders don't want                  9 to risk careers by questioning the status quo.                  10         Can we do that by bringing in                  11 individuals that seen the restricted grades to provide                  12 their technical expertise? I don't know. That's a                  13 very tough question to ask.                  14         And then the final recommendation for                  15 actions here would be to kill the upper-out                  16 requirement for promotions and allow people to truly                  17 stay where they're technical experts.                  18         If we do that, it will allow them to                  19 truly learn their skills and their craft and be able                  20 to develop it further than just making sure that                  21 they're compliant before they move on to the next job.                  22         MS. GORDON: Well, Matthew, I should</p>
<p style="text-align: right;">Page 15</p> <p>1         We also need to open the policy for                  2 development and proliferation of technology, which is                  3 going to allow us to truly be on the leading edge of                  4 technology, rather than waiting on them to push                  5 through the lengthy approval process. There's a lot                  6 to that. But that's the big ASC there.                  7         The biggest internal barrier that I see                  8 within the DoD, it's bred by culture compliance, and                  9 it comes back to the policies.                  10         So we promote based on compliance, you                  11 show that you're good at what you do, and we expect                  12 you to comply with the requirements that we put in                  13 place. The training enforces compliance.                  14         Another issue is the next Steve Jobs                  15 typically doesn't join the military. So it's hard to                  16 find that talent and that desire to change things when                  17 we're focused on complying.                  18         An additional barrier that we have is                  19 constantly moving. So you get removed within your                  20 job. You get moved within your duty stations. We're                  21 constantly revolving. It's an open door, and it's                  22 very difficult to improve processes if you're just</p>	<p style="text-align: right;">Page 17</p> <p>1 have ceded my time to you. I think you did a                  2 brilliant job of showing the entire vertical of                  3 possibility for innovation and change.                  4         I also think what you did was highlight                  5 the dual need of opening the aperture and creating                  6 systemic solutions, not just one-offs where we'll do                  7 something, and it won't achieve repeatable outcome.                  8 So thanks. Good stuff.                  9         MR. PINE: Yes, ma'am. Thank you.                  10         MR. BLOOMBERG: Matt, Mike Bloomberg.                  11 Let me ask you, how long have you been in the Marine                  12 Corps?                  13         MR. PINE: Seventeen years, sir.                  14         MR. BLOOMBERG: You don't look old                  15 enough to be 17 years. But we appreciate your wisdom,                  16 and that's a lot of the things that we've said before,                  17 and hearing them coming from somebody who's had actual                  18 experience on the ground gives us some great hope that                  19 we really can make some changes.                  20         So thank you for your service to this                  21 country, and thank you for your service to this panel.                  22         MR. PINE: Yes, sir. Thank you for the</p>

Page 18	Page 20
<p>1 opportunity.</p> <p>2 MR. BLOOMBERG: Marina?</p> <p>3 DR. THEODOTOU: Thank you, sir. We do</p> <p>4 have time for additional members to comment on Matt's</p> <p>5 insights.</p> <p>6 MR. MULLEN: Hey, Matt, Mike Mullen.</p> <p>7 Thanks for all of what Mike Bloomberg just said.</p> <p>8 What's the biggest threat to promotion in what you</p> <p>9 see?</p> <p>10 MR. PINE: I think the biggest threat</p> <p>11 is when you question status quo, there's usually -- I</p> <p>12 mean, obviously, you understand there's layers in the</p> <p>13 chain of command, and you have to find a champion</p> <p>14 somewhere to back you. Otherwise, you're just a voice</p> <p>15 in the dark.</p> <p>16 And those champions, as I stated,</p> <p>17 sometimes can be very difficult to find. It can take</p> <p>18 five years to change policy, and that's a quarter of a</p> <p>19 career. So it's -- you have to continue to push and</p> <p>20 push and push and have that voice behind you pushing</p> <p>21 that to assist.</p> <p>22 I always say I can't promote a junior</p>	<p>1 I'm the sole source of supply, I'm not going to give</p> <p>2 that up. I'm not going to give that monopoly up by</p> <p>3 giving you my technical data.</p> <p>4 There's a lot of apprehensions within</p> <p>5 industry for letting us kind of have free rein to what</p> <p>6 they make. Plus, if they can contract the repairs to</p> <p>7 us, they're going to make a lot more money in the long</p> <p>8 run as it currently sits than if they just let us</p> <p>9 outright maintain our own equipment.</p> <p>10 MR. SWANN: Got you. Thank you.</p> <p>11 MR. PINE: Yes, sir.</p> <p>12 DR. THEODOTOU: Thank you. Any</p> <p>13 additional thoughts for Matt before we go to our next</p> <p>14 speaker?</p> <p>15 Matt, thank you, so much.</p> <p>16 MR. BLOOMBERG: Thank you, Matt.</p> <p>17 DR. THEODOTOU: We really appreciate</p> <p>18 your time. Yes, sir.</p> <p>19 MR. PINE: Thank you for the time.</p> <p>20 DR. THEODOTOU: Over to you, sir.</p> <p>21 Thank you, Matt. We really appreciate</p> <p>22 your time and your service.</p>
Page 19	Page 21
<p>1 marine to master gunnery sergeant tomorrow, even if he</p> <p>2 has the best ideas and the best capabilities.</p> <p>3 MR. MULLEN: Right.</p> <p>4 MR. PINE: There's still blocks in the</p> <p>5 way.</p> <p>6 MR. BLOOMBERG: Marina, anything else?</p> <p>7 DR. THEODOTOU: I think we have</p> <p>8 additional comments. I think Ryan is making some</p> <p>9 comments.</p> <p>10 Mr. Swann, over to you.</p> <p>11 MR. SWANN: Yeah, I was on mute.</p> <p>12 Thanks for coming and chatting with us on the panel</p> <p>13 and definitely, thank you for your service.</p> <p>14 You mentioned technical data -- getting</p> <p>15 access to technical data as something that was</p> <p>16 critical for us to be able to leverage the technology</p> <p>17 solutions, fix them where we need to.</p> <p>18 What's the biggest barrier of us</p> <p>19 getting access to that data for the systems that we</p> <p>20 deploy abroad or at home?</p> <p>21 MR. PINE: The easy answer is money.</p> <p>22 But a lot of it comes down to -- it goes back to if</p>	<p>1 And now it's my pleasure to introduce</p> <p>2 our next speaker, Mr. Ryan Connell, who is the co-</p> <p>3 founder and current deputy director of the defense</p> <p>4 contract management agency, The Commercial Item Group.</p> <p>5 So Ryan has over 15 years' experience</p> <p>6 in cost estimating, pricing and negotiation, cost and</p> <p>7 compliance, commercial acquisition, and market-based</p> <p>8 pricing.</p> <p>9 Ryan, the floor is yours. You have</p> <p>10 five minutes. Thank you.</p> <p>11 MR. CONNELL: Thank you, and thank you</p> <p>12 to the board just freeing up the conversation here to</p> <p>13 talk about -- you know, my personal views and opinions</p> <p>14 don't necessarily represent the agency. But</p> <p>15 definitely excited to talk to you about some of the</p> <p>16 challenges that I see from my perspective.</p> <p>17 So, you know, I look at the world, and</p> <p>18 I think we know how to make. But I question if we've</p> <p>19 figured out how to adapt and buy, and I'll use that</p> <p>20 term a couple times today, really meaning adapting</p> <p>21 ourselves to understanding what exists in the</p> <p>22 commercial technology marketplace and then being able</p>

<p style="text-align: right;">Page 22</p> <p>1 to reflect our requirements based on that and then                  2 executing the purchase.                  3 I think we have an acquisition system                  4 designed for making really complex weapon systems, and                  5 in terms of fairness and physical responsibility and                  6 delivering world-class weapon systems, you know, we've                  7 created a system that makes some of the coolest pieces                  8 of technology that we have.                  9 You know, GPS is a great example of                  10 something that once was a top-secret military program,                  11 but has led to commercialized industry disruptions.                  12 That system made a lot of sense in an                  13 era where DoD led the world in developing the coolest,                  14 newest technology. I believe today is different. I                  15 believe a lot of that coolest, newest technology is                  16 coming out of our startup community and coming out of                  17 commercial tech; right?                  18 So I look at this decisive decade that                  19 we're in. I think we need to learn how to adapt and                  20 buy, versus that kind of mindset of make and create.                  21 And for context, I look at Russia and                  22 Ukraine. It was brought up earlier. You know, this</p>	<p style="text-align: right;">Page 24</p> <p>1 potentially, you know, the idea of just adding some                  2 scrutiny and potential policing of developing overly                  3 complex requirements, which potentially could have                  4 been solved using just existing commercial products in                  5 the marketplace; right?                  6 So potentially adding resistance in                  7 areas that acquisition -- you know, the FAR tellers                  8 are not the preferred ways of doing business.                  9 So number one is looking at Section                  10 6716 of the 23 NDAA, this was a section specifically                  11 related to the intel community. But it really further                  12 defined and required how intensely we need to do FAR                  13 Part 10 market research, specifically in that                  14 requirements phase, and documenting that there really                  15 were not COTS, NDI, or commercial services available.                  16 I also think when we do that analysis,                  17 it's worth exploring and highlighting the role of --                  18 of what I do in my day job, the centralized capability                  19 in US Code 3456, bringing in that market research                  20 expertise to help define those requirements based on                  21 what exists in the marketplace.                  22 Point two, consider using and exploring</p>
<p style="text-align: right;">Page 23</p> <p>1 seems to me to be a scrappy war -- "oh, whatever I can                  2 get my hands on" type of war.                  3 We're seeing things, like COTS drones,                  4 that have satellite phones duct taped to them to get a                  5 couple hours of reconnaissance. Things, like remote-                  6 controlled toy cars -- sorry, toy boats, being                  7 strapped with explosives and being sent up to look for                  8 warships.                  9 You know, this past year, September                  10 29th, I was part of a fire drill for our department,                  11 you know, looking for a purchase of a bunch of drones                  12 from a specific university. I involved my network to                  13 the maximum that I could. Despite a lot of really                  14 good ideas, we were unable to execute a same-day                  15 purchase, and the funds expired.                  16 So I think about these stories, and I                  17 constantly wonder, you know, if we were in a war, like                  18 that, would we be able to execute that "whatever I can                  19 get my hands on" type model -- that adapt and buy                  20 model.                  21 So some ideas on how to fix it, I                  22 really have three things I want to talk about. But</p>	<p style="text-align: right;">Page 25</p> <p>1 monetary and incentive awards for those acquisition                  2 professionals who take those smart, calculated risks                  3 and are specifically really good at finding creative                  4 ways to leverage existing commercial technology.                  5 And I think that needs to be outside of                  6 our normal DoD annual award structure and more of an                  7 ad hoc opportunity to monetize and find incentives for                  8 those individuals that are performing and sharing,                  9 which brings me to my third point.                  10 I think storytelling is huge. I think                  11 that we have platforms, like LinkedIn, which is, you                  12 know, kind of a migrant DoD platform for sharing some                  13 of these stories.                  14 But I look at things, like the law of                  15 diffusion of innovation; right? We have 180,000                  16 acquisition professionals in DoD. The law tells us                  17 that somewhere around 16 percent of innovators and                  18 early adopters is where that tipping point happens for                  19 mass acceptance. That's 30,000 professionals.                  20 I don't have 30,000 followers in                  21 LinkedIn. I don't know many people that do. I don't                  22 know if we're going to have 30,000 people listening to</p>

Page 26

1 this talk. So we really have to find a way to keep  
 2 sharing those stories, so we do get to that point of  
 3 kind of mass adoption and the law takes over.  
 4 As soon as those things happen, you  
 5 know, kind of my expected results out of those, you  
 6 know, I think you'll see things, like movie quality  
 7 video cameras mounted in-country that support and  
 8 anti-ID mission, instead of, for example, developing a  
 9 robotic bomb sniffing convoy; right? Commercial  
 10 solution to a military requirement.  
 11 I think you'll see things, like 3D  
 12 printed boats coming out of the University of Maine  
 13 being done in 72 hours, able to produce hundreds at  
 14 the same price of a traditional defense program.  
 15 And lastly, I think you'll see  
 16 increased competition, because you're reducing the  
 17 military unique requirement to meet the marketplace  
 18 and not creating unique requirements and letting the  
 19 marketplace figure out how to meet them.  
 20 This is an adapt and buy world, and I  
 21 just hope the department can participate. That's my  
 22 time.

Page 27

1 DR. THEODOTOU: Thank you, so much,  
 2 Ryan. I really appreciate your insights here and the  
 3 way you structured those barriers and your  
 4 observations.  
 5 Sue, I'll turn it over to you for your  
 6 initial comments, and then the rest of the board.  
 7 MS. GORDON: Yeah. You know, Ryan, you  
 8 highlighted a lot of both macro and micro issues that  
 9 I think are, one, within the scope of what we're  
 10 looking at and, two, exactly the sort of things that  
 11 should be achievable in short order.  
 12 I particularly love your idea about --  
 13 I'm going to put words in your mouth, credit cards,  
 14 not contracts. You know, your --  
 15 MR. CONNELL: Sure.  
 16 MS. GORDON: -- story about the  
 17 opportunity to make a same-day buy, the availability  
 18 of a same-day buy, and our difficulty in pulling it  
 19 off, despite it being our intention is exactly, to me,  
 20 the sweet spot of what we as a collective community  
 21 are trying to achieve.  
 22 So I thought your story was perfect,

Page 28

1 and I wrote those things down, because I think they're  
 2 the kind of things that would make a huge difference  
 3 while we're doing some of the bigger things to open up  
 4 the aperture, and I also couldn't agree more about  
 5 where the strength of America and this moment lies.  
 6 It's in the entrepreneurs, whether  
 7 they're in big or small companies, who are looking at  
 8 national security differently and the opportunity they  
 9 have to help us along our way. So your comments were  
 10 right on to me.  
 11 MR. CONNELL: Thank you, ma'am.  
 12 DR. THEODOTOU: Mr. Chair, over to you.  
 13 MR. BLOOMBERG: Anybody else have  
 14 anything?  
 15 Ryan, thank you for your service, and I  
 16 think most of the -- maybe all of this committee  
 17 thinks you are spot on, and we will certainly avail  
 18 ourselves in plagiarism and repeat what you said, so  
 19 thank you, very much.  
 20 MR. CONNELL: I appreciate it. Thank  
 21 you, sir.  
 22 MR. BLOOMBERG: Okay. Now over to

Page 29

1 Ryan.  
 2 Ryan, please brief us on what we're  
 3 calling the data economy study.  
 4 MR. SWANN: Yeah, thank you, Mike.  
 5 Happy to kick off an update for building a data  
 6 economy for the DoD study, and I'll invite my fellow  
 7 members to time in to talk about it.  
 8 Listen, at a high level, we know that  
 9 in order to out-innovate our adversaries and support  
 10 the war fighter, it's imperative that DoD utilizes  
 11 data as product to responsibly harness the power of  
 12 data analytics and destructive technology, like,  
 13 generative AI, large-language models.  
 14 And so the purpose of the study is to  
 15 strengthen the data's intricacy and really enhance our  
 16 decision and advantage in the department, and we plan  
 17 to do it in a couple ways.  
 18 The first is to assess the current  
 19 state of the data economy at DoD, identifying gaps and  
 20 opportunities, things that we should take a hard look  
 21 at that can ultimately improve our ability to unlock  
 22 the value of data, but also to provide kind of the



Page 30

1 best in class industry best practices that the  
 2 department needs.  
 3         And those could be things from  
 4 principles to frameworks to metrics to technology  
 5 that's ultimately, again, going to allow us to unlock  
 6 that value.  
 7         And then third and finally is really to  
 8 develop actionable outcome driven recommendations  
 9 that's going to allow us to build on our current  
 10 strategies, our current initiatives, that's going to  
 11 ultimately allow us to scale the use of data  
 12 analytics, scale the use of that DoD data economy for  
 13 2025 and beyond.  
 14         So before I invite our two speakers to  
 15 share thoughts about key barriers to the data economy,  
 16 I want to turn it over to my colleagues to see if  
 17 there are any comments regarding our study so far.  
 18         MR. BLOOMBERG: Does not seem to be any  
 19 questions, so why don't you go ahead and introduce the  
 20 two speakers.  
 21         DR. THEODOTOU: I can do that for you,  
 22 Ryan.

Page 31

1         So it's a pleasure to welcome Mr.  
 2 Thomas Sasala, the Deputy Director of the US Army,  
 3 Office of Enterprise Management. Mr. Sasala was most  
 4 recently the chief data officer for the Department of  
 5 the Navy.  
 6         Mr. Sasala, thank you, so much, for  
 7 being here with us today. We appreciate your time and  
 8 insights, and you have the floor. You have about five  
 9 minutes, sir. Over to you.  
 10         MR. SASALA: All right; awesome. Thank  
 11 you, so much. Thank you for your time. Thank you  
 12 for the board members for taking time out of your day  
 13 to do this. I think this is important for us to kind  
 14 of get the message out.  
 15         And in large part, I'm going to speak  
 16 on a couple of different topics. But they're all  
 17 interrelated, and this is really drawn in my time  
 18 previously as a chief data officer for the Department  
 19 of the Army and then the Navy, and now I am back to  
 20 the Army doing predominantly business operations.  
 21         But, you know, what we found over the  
 22 years in the DoD and all the way back into my time in

Page 32

1 the intelligence community is knowing where our data  
 2 is, having access to that data, and having the skills,  
 3 the knowledge, and more importantly, the willingness  
 4 to use that data for decision making and to drive  
 5 outcomes is a challenge for the DoD. It is a  
 6 challenge for the government at large; right?  
 7         So what I have noticed and what me and  
 8 my co-workers I would say have noticed, is there's an  
 9 interesting bias against using real data, and instead,  
 10 we oddly rely on our trusty PowerPoint presentations,  
 11 which may or may not have a solid basis in data or  
 12 facts for decision making.  
 13         And so this is not necessarily -- I  
 14 don't like to call this a cultural barrier  
 15 predominantly, because a culture becomes a crutch. We  
 16 say we can't do something because, oh, it's just the  
 17 culture of the organization, and it's too hard or  
 18 whatever.  
 19         So what we started doing predominantly  
 20 in my time in the Navy and also in the Army as well is  
 21 start chipping away at this by just removing some of  
 22 the, what we'll call the "lower-level barriers" to our

Page 33

1 data itself, and really, start by inventorying our  
 2 data, just simply knowing what data we have.  
 3         You know, it would be a wonderful world  
 4 if we say that we had some sort of cyber incursion on  
 5 System X if we knew instantaneously what data was in  
 6 that system and the sensitivity of that data, the  
 7 potential impact of that data being compromised or  
 8 exfiltrated from the environment.  
 9         In many cases, we don't know those  
 10 answers; right? So we catalogued our data. More  
 11 importantly, we catalogued the systems, the data sets,  
 12 and the products that we have registered in those  
 13 systems.  
 14         And then that led me to a little bit of  
 15 an epiphany, and this is a situation where I think  
 16 it's a lesson is learned and something we're trying to  
 17 recover from a little bit, and that is we had to  
 18 engage in a campaign of learning for our total force,  
 19 and so the concept of data awareness and the knowledge  
 20 of data and the general upscaling of the workforce, in  
 21 terms of their acumen when it comes to data and data  
 22 management.

Page 34	<p>1 I've run into a number of senior</p> <p>2 leaders in my day who claim, "Well, I don't really</p> <p>3 know anything about data." Yet every single day,</p> <p>4 they're using data to make a decision one way or the</p> <p>5 other.</p> <p>6 They might not be an expert data</p> <p>7 scientist or know Python programming or whatever. But</p> <p>8 at the end of the day, they literally are using data</p> <p>9 to do everything that they're doing.</p> <p>10 And so just understanding some of those</p> <p>11 fundamentals, and I jokingly said to someone just</p> <p>12 recently, "It's not a data 101 class. We need a data</p> <p>13 1.0 class." And then a 10; right? And then a 101,</p> <p>14 really getting people up to the fundamentals, and this</p> <p>15 goes for the total workforce.</p> <p>16 And I said this to the board earlier in</p> <p>17 an earlier session, you know, in 20 years, this</p> <p>18 problem will generally resolve itself, because the</p> <p>19 workforce will be digital native. They will be data</p> <p>20 natives; right? But in this case, we're not right</p> <p>21 now, so we need to get there.</p> <p>22 And so one of the things we started</p>	Page 36	<p>1 that data inventory hold us back, which it does in</p> <p>2 many cases where we try to solve the hardest problems</p> <p>3 first.</p> <p>4 So with that, I will leave you with</p> <p>5 just a thought that I started pondering a while ago,</p> <p>6 which is a modern world is data driven, and without</p> <p>7 data readiness, you can't have a ready military force.</p> <p>8 So we need to train our soldiers on</p> <p>9 data, like we train them on the platforms and the</p> <p>10 weapons they use every day; right?</p> <p>11 And so the soldiers need to be</p> <p>12 comfortable with using data at the speed of mission to</p> <p>13 achieve that operational advantage in the overmatch</p> <p>14 that we desperately need.</p> <p>15 I'll turn it back over to you, Marina.</p> <p>16 DR. THEODOTOU: Thank you, so much,</p> <p>17 Tom. Great insights. I love what you mention about</p> <p>18 training every soldier to be versatile with data as</p> <p>19 they are with their weapons.</p> <p>20 And with that note, I'd like to turn it</p> <p>21 back to Ryan for his comments and then back open to</p> <p>22 the rest of our board for their insights.</p>
Page 35	<p>1 doing is working on that training of the workforce and</p> <p>2 having different tiers, senior leader level training</p> <p>3 that would resonate more with them -- what we call</p> <p>4 kind of "mid-tier" or "general knowledge" worker sort</p> <p>5 of training.</p> <p>6 And then one of the things we still</p> <p>7 have yet to do, but we're working on, and I would be</p> <p>8 interested in the warrant officer's opinion on this,</p> <p>9 is as you get into basic training, as you're learning</p> <p>10 your basic skills in your occupational specialty,</p> <p>11 putting data in there and making data a center part of</p> <p>12 that training and understanding how the DoD manages</p> <p>13 data, understanding why some of the DoD data is</p> <p>14 different than normal data, and why it needs to be</p> <p>15 protected differently.</p> <p>16 We're not a unicorn. We're not a</p> <p>17 snowflake. But there are some things that we do that</p> <p>18 maybe the rest of the public sector doesn't do, and so</p> <p>19 we need to acknowledge that, and we need to make</p> <p>20 provisions for it.</p> <p>21 But what I will also say is we don't</p> <p>22 need to let that maybe 5 or 10 or 15 or 20 percent of</p>	Page 37	<p>1 Ryan, over to you.</p> <p>2 MR. SWANN: Absolutely. Listen, thank</p> <p>3 you, Tom. I really appreciate your insights, and it's</p> <p>4 very aligned with, you know, what we see out in</p> <p>5 industry in regards to best practices from kind of</p> <p>6 really a people process technology.</p> <p>7 You have to really understand what data</p> <p>8 you have, where is it. But the people process part,</p> <p>9 building that data acumen, is very important, and I</p> <p>10 couldn't agree more.</p> <p>11 Let me ask you one quick question. You</p> <p>12 mention some of the lower levels of barrier that you</p> <p>13 guys are trying to start to really "chip away at" I</p> <p>14 think you used.</p> <p>15 In your mind, what are the higher level</p> <p>16 barriers that you see that we, as an organization, if</p> <p>17 we make it both important and urgent at the same time,</p> <p>18 that we should tackle, we should look at? What's that</p> <p>19 one or two things that come from the mind for you?</p> <p>20 MR. SASALA: Yeah. So Matt mentioned</p> <p>21 this earlier. I would say that the funding is clearly</p> <p>22 a barrier in many cases. Data things don't compete</p>

<p style="text-align: right;">Page 38</p> <p>1 well when you compare them to the next Abrams or the                  2 next aircraft carrier; right? So if you're not                  3 blowing something up, you're not doing legitimate                  4 military work.                  5 I would argue you can't blow anything                  6 up without data. So if you don't start with that                  7 basis, then maybe, you know, whatever.                  8 But actually, the number one thing that                  9 I think that I could use your help with and we could                  10 use your help with is senior leaders at the most                  11 senior level of the department need to make data                  12 important. They need to make the training. They need                  13 to make the access. They need to make the use of data                  14 important.                  15 During my time in the Navy, I did have                  16 the opportunity to participate in a couple DMAGs with                  17 the deputy secretary of defense, and we used the                  18 legitimate dashboards in those meetings, and we looked                  19 at meaningful data with not just metrics.                  20 It wasn't a stoplight chart. It was                  21 actual, you know, some of the data was raw. Some of                  22 the data was more quantitative. And we made some</p>	<p style="text-align: right;">Page 40</p> <p>1 go back and refactor. And it's a discovery then                  2 recovery, so don't fear the discovery process, and I                  3 see that a lot in the DoD.                  4 MR. SWANN: Awesome. Awesome. Thanks,                  5 Tom.                  6 MR. BLOOMBERG: Anybody else, Marina?                  7 DR. THEODOTOU: Admiral Mullen, did you                  8 have any additional comments?                  9 MR. MULLEN: Yeah. Hey, Tom, Matt                  10 brought up the whole issue of how do you get                  11 contractor data. You know, I mean, obviously, in the                  12 field is what he was talking about. How do you do                  13 that?                  14 Do you got any -- I'm sure it's very                  15 difficult to get at, the point he made about they can                  16 make a lot of money on it. Is there -- can you see a                  17 way ahead with respect to that?                  18 MR. SASALA: Yeah, there's a couple                  19 simple things I think we could actually do in that                  20 regard, and that's a great question. It's actually                  21 very challenging.                  22 But at the end of the day, look, they</p>
<p style="text-align: right;">Page 39</p> <p>1 decisions based off that information.                  2 I don't see that happening as much                  3 today as I did maybe back a year or two ago.                  4 Certainly when Secretary Esper was the secretary of                  5 the Army, he did it every Monday morning.                  6 It was fascinating to watch him run a                  7 staff meeting every Monday morning with the senior                  8 leaders of the Department of the Army, which you don't                  9 see that very often in the DoD. It's kind of counter-                  10 cultural to bring your senior leaders together and                  11 speak to them on a regular basis.                  12 So someone like the secretary of                  13 defense or the deputy secretary of defense not just                  14 standing up and saying the data is a strategic                  15 priority, but actually demanding the use of data in                  16 their own meetings -- right, and then making decisions                  17 and more importantly, going back and measuring the                  18 effectiveness of those decisions with data -- right,                  19 and then being willing to change the decision or                  20 change your approach based off the data.                  21 So if you make a decision that                  22 decreased hiring times and it's not having the effect,</p>	<p style="text-align: right;">Page 41</p> <p>1 are way better at writing contracts than we are, the                  2 corporate sector -- and having spent over a decade in                  3 the private sector and now almost over 20 years in a                  4 public sector, I can appreciate the perspective --                  5 right, but if you look at the new modern gig companies                  6 -- right, they're all data-centered companies from the                  7 day zero. There was no getting into data; right?                  8 So some of the traditional defense                  9 integrators are really just trying to start to learn                  10 how to monetize their data; right? And unfortunately,                  11 sometimes it has delirious effects to the DoD. So                  12 adding clauses into our contract, saying the data must                  13 be freely available to the DoD or the government if                  14 you want to go as far -- right, and then having the                  15 legal basis.                  16 There's enough provisions already in                  17 the FAR to give us legal access to the information.                  18 But it turns out, if we leave those clauses out, then,                  19 again, there's a kind of cultural bias in the                  20 acquisition community to let the contractors have                  21 their way whenever they want to do these things.                  22 And I'm not saying this is bad. I'm</p>

Page 42	Page 44
<p>1 just saying that there's this fear of lawsuits that                  2 kind of is at the detriment of the government.                  3           So making it clear up front and                  4 thinking of these things on day zero, not on, you                  5 know, the thousandths day of a contract that has gone                  6 sideways, I think is just the simplest, easiest thing                  7 to get after it. I appreciate your question though.                  8           MR. MULLEN: Okay.                  9           DR. THEODOTOU: Thank you, so much,                  10 Tom.                  11           Thank you, everyone, for your insights                  12 and building on what Tom mentioned.                  13           Next, we'd like to invite Ms. Meredith                  14 Fonseca to take the floor.                  15           Ms. Fonseca was appointed as the US                  16 Army Pacific chief data officer in August of 2023, and                  17 previously, she was the director of research                  18 development for the US Army Special Operations                  19 Command.                  20           Meredith, welcome. Thank you, so much,                  21 for your time and insights today. You have the floor.                  22 You have five minutes. Thank you.</p>	<p>1 systems of records sometimes have data rights.                  2 Sometimes the data is owned by the vendor, and it's                  3 too expensive to go back and procure it, or we don't                  4 have interface control documents, APIs, so we're                  5 unable to really use and display that data in tactical                  6 tools, like common operational pictures, common intel                  7 pictures.                  8           And we struggle with prioritizing those                  9 very finite resources that don't fit squarely into an                  10 acquisition cycle; right? Data and technology                  11 professionals are astute at using systems, like Agile,                  12 as opposed to five-year put it in the palm.                  13           So if you ask me four years ago,                  14 "Meredith, should we palm for a GPT like LLM                  15 capability," I probably would have said no; right?                  16 And we don't have a crystal ball at the speed which                  17 these technologies are moving, and so we're not                  18 programming for them in a way where I just have a                  19 placeholder bucket -- right, for them. And as a                  20 result, we're reacting and reacting in a manner that's                  21 ad hoc.                  22           Right now, as a nation, we are</p>
Page 43	Page 45
<p>1           MS. FONSECA: Ma'am, thank you. And                  2 board members, it's a pleasure to be here today. As                  3 mentioned, I am down at the US Army Pacific Command                  4 here in Hawaii. So we have a little bit more of a                  5 tactical perspective.                  6           To help frame this, and I mentioned                  7 this to the board previously, but we are verry                  8 concerned with fighting as not just an army, but a                  9 joint partner with all the other services and, of                  10 course, the US fights no fight alone, so the mission                  11 partners and allies in a theater where we do not have                  12 NATO.                  13           So agreements on data sharing, data                  14 rights with those mission partners are often bilateral                  15 nation to nation, and we are often changing politician                  16 to politician, unfortunately, in some of these                  17 nations.                  18           We struggle with not just data                  19 cataloguing as mentioned by Mr. Sasala. That is                  20 accurate. We are struggling with data cataloguing                  21 here within the Army.                  22           Part of that is programs of record,</p>	<p>1 struggling many threats. We see the crisis in Israel.                  2 We are supporting and helpful with Ukraine. And as a                  3 result, we are reducing the resourcing and the                  4 prioritization towards the pacing threat in the                  5 Pacific.                  6           So as we do that, we're really, you                  7 know, kind of getting too thin in some cases here. I                  8 would challenge that's how we kind of view the                  9 operating environment is this need for a joint, a                  10 partner, and a predictable resource. That's my big                  11 takeaway for you.                  12           My second and maybe smaller, because I                  13 recognize it's a challenging nut to crack, is the                  14 human capital. We see many organizations bringing in                  15 a CTO, a chief technology officer, a chief data                  16 officer. Some cases those are unique requirements.                  17 In many cases, they're sort of blended and are                  18 interdependent.                  19           They're bringing in an HQE for a period                  20 of two years from industry. Oftentimes, that                  21 individual is technically very efficient, but lacks                  22 the ability to navigate some of the bureaucracies and</p>

<p style="text-align: right;">Page 46</p> <p>1 policies and acquisition process that we're living.                  2           As many of you acknowledged already,                  3 two years is a very challenging time to indoctrinate                  4 you to the US Government and ask you to get something                  5 done.                  6           Oh, and by the way, when I appointed                  7 you, no one really works for you, and the                  8 organizations under you cannot respond to your                  9 request, because they're lower echelons. There isn't                  10 data or technology at echelon across the DoD. I'm                  11 going to say that again. There is not data or                  12 technology focused dedicated personnel at echelon.                  13           In some cases, it is built out of high.                  14 It is built out of personality. Oh, this person                  15 writes code in Python. This person writes an R in C+.                  16 That guy knows a lot about cloud engineering. He's                  17 going to help us get a cloud instance here -- a hybrid                  18 cloud. Okay. Is that our plan for storage, for                  19 compute?                  20           It's ad hoc, and I'd love to see us                  21 come together and make recommendations about how to                  22 make those things prioritized, predictable, resourced,</p>	<p style="text-align: right;">Page 48</p> <p>1 benefits and all of -- you know, you don't lose your                  2 sick time or whatever?"                  3           But right now, we really incentivize                  4 our government civilians to stay put and not leave,                  5 and their skills become perishable, and we lose the                  6 ability to retain them against higher-paying                  7 opportunities in large firms, like your Microsoft,                  8 your Google, your Stay L AI [ph], you know, all of                  9 those opportunities, but also the really small and                  10 uniquely high-paying off potentially, you know,                  11 startups.                  12           And so I want to leave that with you.                  13 How do we resource? How do we look at this at echelon                  14 from a multinational perspective where we don't have                  15 NATO against a pacing threat that has not changed                  16 their priorities and do it in a joint way, and then                  17 how do we manage human capital?                  18           Thank you, so much.                  19           MR. SWANN: Thank you. Thank you,                  20 Meredith. I really appreciate your comments and your                  21 insight from a tactical perspective.                  22           Let me ask a question. When we think</p>
<p style="text-align: right;">Page 47</p> <p>1 and standardized across the joint enterprise so that                  2 we can work together in a more efficient way.                  3           Does it come at a cost? Yes. Are we                  4 going to have to ask ourselves as a nation what's the                  5 bill payer to build this data and technology                  6 professional at echelon? We will have to modernize to                  7 do that, and then we'll also have to retain these                  8 professionals.                  9           I lived this years ago, as you heard,                  10 in special operations, standing up unmanned systems.                  11 We lost a number of uniformed and civilian                  12 professionals to high-paying co-co, contractor owned-                  13 contractor operated, opportunities, because there was                  14 a huge demand, and we couldn't compete at the DoD.                  15 Oh, I can give you a small bonus of \$5,000.                  16           Well, let's get creative as a board, as                  17 a community of professionals, and say, "What if I sent                  18 you to industry on a two-year leave of absence to                  19 upskill to earn a little bit, to recalibrate your                  20 skills, and then we ask you to come back, and we                  21 incentivize you to come back and bring that goodness                  22 to the DoD, and you still earn your retirement</p>	<p style="text-align: right;">Page 49</p> <p>1 about the joint force and partnering with our allies                  2 abroad, especially what's happening around the world,                  3 how do you think about that data sharing?                  4           What can make that accelerate in order                  5 for us to get the right information to the right                  6 organizations at the right time? Is it standards? Is                  7 it collaboration? What is it? Is it a communication                  8 of our systems? Help me just unpack that on where you                  9 think we could really move the needle from.                  10           MS. FONSECA: Yes, sir. I wish it was                  11 just one thing.                  12           Mr. Sasala said it very well. Our                  13 senior leaders using data, trusting the data -- right,                  14 are we trusting the data, and are we asking for data                  15 visualization? I want to see real data, not a                  16 PowerPoint -- real data; right? Am I fighting off of                  17 a common operational picture?                  18           Right now, we have an Army common                  19 operational picture. We have a Navy common                  20 operational picture. We're trying to build a joint                  21 fires network picture. But that's just fires; right?                  22 That's kinetic fires.</p>

<p style="text-align: right;">Page 50</p> <p>1 You know, so we're in these silos of                  2 brilliance, and how we weave that together into                  3 something is a challenge. So I would say when it                  4 comes to the partners, there are data rights; there                  5 are data transport. Those are all technology problems                  6 that we've proven we can overcome.                  7 We can. From a ones and zeros                  8 perspective, we can build mission partner environments                  9 and networks. We can transport the data. We can                  10 share it. All of that, we can overcome; right?                  11 We make agreements with other nations                  12 all the time for trade, for, you know, taxes, for                  13 everything. We do a great job at this. I know as a                  14 nation, we can do it.                  15 We have to bring it up to the dialogue.                  16 We have to make it a priority from the senior-most                  17 level, and then we have to govern it.                  18 We can't just say, "Catalogue your                  19 data, Meredith, in the Pacific, because we might need                  20 it to make Pacific-oriented decisions." We have to                  21 say, "Show me your catalogue. Where is your ontology,                  22 your taxonomy? What are the data rights of that</p>	<p style="text-align: right;">Page 52</p> <p>1 MR. SWANN: Awesome. Thank you,                  2 Meredith.                  3 DR. THEODOTOU: Thank you, so much,                  4 Meredith. Thank you for your feedback.                  5 I'm going to keep two things in mind.                  6 We don't want our talent, skills to become perishable,                  7 quoting you, and also, we want data talent at echelon.                  8 So with that, we conclude our                  9 presentation of our two studies. I would like to                  10 thank the members of the board working on both                  11 studies, Sue and Ryan for the insightful updates.                  12 And, Mr. Chair, we have about 15                  13 minutes left on the clock before we delve into the                  14 future studies and review comments received from                  15 citizens. I wanted to turn it over to you for your                  16 comments on the current studies.                  17 Over to you, sir.                  18 MR. BLOOMBERG: Well, Marina, thanks                  19 for everyone's hard work on these studies, and we look                  20 forward to making our recommendations public at the                  21 next meeting in January.                  22 Now, I think we have one more thing to</p>
<p style="text-align: right;">Page 51</p> <p>1 thread?" Maybe it's Fires, like I used. Okay. What                  2 are the data rights? Do we have any agreements in                  3 place.                  4 Someone has got to govern it and hold                  5 us accountable, I think, and then we can standardize.                  6 When we really see ourselves, then we can say, "Here's                  7 best practices. How do we standardize?"                  8 But we also have to resource it to do                  9 that; right? We have to have talent in the seats to                  10 do it.                  11 I am your only data officer in the                  12 Pacific, right here, in the Army. So my higher                  13 headquarters and no pay com, the GCC, had a HQE for                  14 one year. B no one worked for him, so he was                  15 struggling to staff overmatch, you know, and I've got                  16 30 people out here.                  17 It's a challenge when we don't have                  18 talent at echelon. So when I say "resource it," I                  19 also mean the humans, not just, you know, the Cloud                  20 contract and the transport and all those things, but a                  21 full spectrum of resourcing.                  22 Over.</p>	<p style="text-align: right;">Page 53</p> <p>1 do and that's to look ahead to our next set of topics.                  2 Marina, would you please share more                  3 information about the next priorities for the Defense                  4 Innovation Board, as well as any public comments that                  5 we've received?                  6 DR. THEODOTOU: Absolutely. So what                  7 we've been doing, the Defense Innovation Board                  8 research team supports our board members in their                  9 efforts to tackle the key issues that prevent                  10 innovation from scaling at the department.                  11 And so our focus has been to do a                  12 little bit of leg work. So we've looked at previous                  13 studies that were done from other organizations.                  14 We've listened innovators on LinkedIn,                  15 and we do have one of the co-founders of LinkedIn here                  16 as a member of our board, Mr. Hoffman. And I know                  17 Ryan mentioned that LinkedIn has become this place                  18 where DoD innovators are coming together to share, and                  19 that's actually very true.                  20 We've been listening to DoD innovation                  21 sales, like the Defense Innovation Board and also to                  22 innovators that present their ideas in forum, like,</p>

<p style="text-align: right;">Page 54</p> <p>1 TEDxDAU. So there are several topics we've been                  2 looking at, and one of them is how the DoD optimizes                  3 the way we innovate with our allies and partners.                  4 I think all of our speakers here today                  5 touched on this and touched on the war in Ukraine and                  6 the war in Israel and all of the upcoming daily                  7 threats.                  8 So this is one of the key topics that                  9 this board will be exploring. We also have another                  10 topic that many DIB members have brought forward, and                  11 actually even today we heard it being validated by our                  12 speakers, which is exploring how to align incentives                  13 across different areas of expertise, like contracting                  14 and budgeting, et cetera, to embrace calculated risks                  15 and give these leaders the top cover that they need so                  16 that they can innovate and they can explore these new                  17 technologies without the fear of not being promoted.                  18 So that's a key area we're looking at.                  19 And also, other ideas that we are actually borrowing                  20 from TEDxDAU, include leveraging the Web 3.0,                  21 blockchain and quantum and beyond. This topic would                  22 align with the secretary's priority of defending the</p>	<p style="text-align: right;">Page 56</p> <p>1 entire acquisition system, and I wonder if we would do                  2 well to spend some time looking at that.                  3 And this is a conversation I had                  4 recently, what about the stuff that's going to change                  5 the world that doesn't have a military requirement,                  6 and yet, when we got it, it would change the world,                  7 and how do you open that aperture up on the                  8 requirement side?                  9 And it's the requirement of a                  10 requirement that costs us a ton of money, and I think                  11 we might be able to address that.                  12 My worry has always been whatever the                  13 top level of requirement is, individuals up and down                  14 the chain of command hang Christmas ornaments on it                  15 and just make it much more expensive, so just a                  16 thought.                  17 MS. GORDON: You know, Mike, just                  18 building on yours, I think that the topic of                  19 requirements is a good one. My only thought is, I'm a                  20 real specify the outcome we need, because too often,                  21 requirements become constraints on the things that we                  22 build, and in a weird sort of way, that in turn</p>
<p style="text-align: right;">Page 55</p> <p>1 nation.                  2 We are also thinking about Bitcoin.                  3 It's the missing piece in cyber warfare. This aligns                  4 with the secretary's priority, again, defending the                  5 nation.                  6 Another topic would be how the DoD can                  7 become an infinite player in the fifth domain, and yet                  8 another topic is, how do we build a resilient nation                  9 where we actually bring innovation together for the                  10 DoD and the government and industry and academia and                  11 the public?                  12 So several ideas here that the DIB                  13 research team is bringing forward, and we wanted to                  14 open the floor for our members to present their                  15 reflections on these topics and any other ideas that                  16 you may have with regards to what should the DIB be                  17 looking at.                  18 The floor is open to the members.                  19 MR. MULLEN: Hey, Marina, just one                  20 thought, listening today and I'm a requirements                  21 officer; that's where I grew up in this business, but                  22 the requirements just drive so much in terms of the</p>	<p style="text-align: right;">Page 57</p> <p>1 constrains our innovators from coming up with ways                  2 different than we thought that requirement could be                  3 satisfied.                  4 So I think it's a really good topic.                  5 And then the obverse of that is a good topic for us,                  6 is how do we better communicate to our ecosystem?                  7 In part, for the reason you last said,                  8 is there will turn out to be really important                  9 technologies that aren't derived from national                  10 security requirements that when they exist, we will                  11 know that they are necessary.                  12 How do we communicate more clearly our                  13 interest in an actionable form and ones that can be                  14 built against. So there's kind of two sides of needs                  15 and interests I think could be a really interesting                  16 thing and power for us to explore.                  17 DR. THEODOTOU: Thank you, so much, Sue                  18 and Admiral Mullen, for your insight.                  19 So we do have about four minutes on the                  20 clock. I just wanted to highlight that we did receive                  21 57 comments from citizens, and there are some really                  22 good insights there that we've already shared with the</p>

Page 58

1 board, and the board will take those into  
 2 consideration.  
 3 I'll highlight one with regards to  
 4 defense companies and universities creating their own  
 5 classified facility. It's a multi-year endeavor  
 6 that's very costly.  
 7 So one recommendation is to figure out  
 8 how to actually allow small non-traditionals and  
 9 universities to co-create and collaborate in  
 10 classified infrastructure environment so that they can  
 11 cut their cost and their time and effort, but also  
 12 deliver technologies to the DoD that are necessary.  
 13 So with that, I would like to thank all  
 14 of our members for the two studies and also our  
 15 speakers today and turn it over to you, Mr. Chair, for  
 16 your closing remarks.  
 17 MR. BLOOMBERG: Well, thank you,  
 18 Marina.  
 19 One of the things that occurred to me  
 20 when Ryan was talking about data, I look at my  
 21 company's business, and probably 20 plus percent of  
 22 our business is selling data that did not exist or was

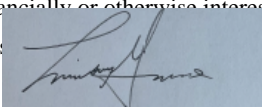
Page 59

1 never collected and used before.  
 2 The whole world, because of transistors  
 3 and fast speeds at computation, lets you do things you  
 4 couldn't do before, and then there are new ways of  
 5 collecting data that we never had before. The most  
 6 obvious one is through space.  
 7 But we collect data in lots of  
 8 different ways, and it's used in ways that were never  
 9 envisioned before, and without that, you just cannot  
 10 compete, and we can't compete as a military power  
 11 anymore than we can as a commercial power.  
 12 So you were spot on, and the next time  
 13 I go to Hawaii, I expect the chief data officer to be  
 14 there with a lei to put around my neck and say thank  
 15 you.  
 16 And thank you for your service, all of  
 17 you. Let me also thank Under Secretary Heidi Shyu for  
 18 all of her work and the entire Defense Innovation  
 19 Board, including those who couldn't be with us today.  
 20 Members, any closing comments? If not,  
 21 thanks again. We'll see everyone at the Winter Board  
 22 Meeting in January.

Page 60

1 So all the best, everyone, and  
 2 hopefully we're making a difference, and we want to  
 3 thank all of those in the military who use our  
 4 product, if you will, and our respect for you and our  
 5 appreciation for defending our country is just better  
 6 than we could ever express. Thank you, all.  
 7 DR. THEODOTOU: Thank you, sir, and  
 8 thank you to all our members, and thank you all for  
 9 joining us today.  
 10 This board meeting is now adjourned.  
 11 Thank you, everyone.  
 12 (Whereupon, the meeting concluded at  
 13 4:59 p.m.)  
 14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22

Page 61

1 CERTIFICATE  
 2 I, TIMOTHY GUEVARA, the officer before whom  
 3 the foregoing proceedings were taken, do hereby  
 4 certify that any witness(es) in the foregoing  
 5 proceedings, prior to testifying, were duly sworn;  
 6 that the proceedings were recorded by me and  
 7 thereafter reduced to typewriting by a qualified  
 8 transcriptionist; that said digital audio recording of  
 9 said proceedings are a true and accurate record to the  
 10 best of my knowledge, skills, and ability; that I am  
 11 neither counsel for, related to, nor employed by any  
 12 of the parties to the action in which this was taken;  
 13 and, further, that I am not a relative or employee of  
 14 any counsel or attorney employed by the parties  
 15 hereto, nor financially or otherwise interested in the  
 16 outcome of this  
  
 17 TIMOTHY GUEVARA  
 18 Notary Public in and for the  
 19 State of District of Columbia  
 20  
 21  
 22



1 CERTIFICATE OF TRANSCRIBER  
2 I, TREASA BUTZIN, do hereby certify that  
3 this transcript was prepared from the digital audio  
4 recording of the foregoing proceeding, that said  
5 transcript is a true and accurate record of the  
6 proceedings to the best of my knowledge, skills, and  
7 ability; that I am neither counsel for, related to,  
8 nor employed by any of the parties to the action in  
9 which this was taken; and, further, that I am not a  
10 relative or employee of any counsel or attorney  
11 employed by the parties hereto, nor financially or  
12 otherwise interested in the outcome of this action.

13  
14  
15  
16  
17  
18  
19  
20  
21  
22

*Treasa J Butzin*  
TREASA BUTZIN

<b>&amp;</b>	<b>31</b> 3:9	21:22 23:18	<b>act</b> 4:19,20
<b>&amp;</b> 12:15	<b>3456</b> 24:19	26:13 56:11	<b>action</b> 7:8
<b>1</b>	<b>3:59</b> 1:9	<b>abrams</b> 38:1	61:12,16 62:8
<b>1.0</b> 34:13	<b>3d</b> 26:11	<b>abroad</b> 19:20	62:12
<b>10</b> 3:5 24:13	<b>4</b>	49:2	<b>actionable</b> 30:8
34:13 35:22	<b>4</b> 3:3	<b>absence</b> 47:18	57:13
<b>101</b> 34:12,13	<b>43</b> 3:10	<b>absolutely</b> 37:2	<b>actions</b> 13:22
<b>12</b> 3:6 5:6	<b>4:59</b> 60:13	53:6	16:3,15
<b>14</b> 1:8	<b>5</b>	<b>academia</b>	<b>actual</b> 13:16
<b>15</b> 21:5 35:22	<b>5</b> 3:4 35:22	55:10	17:17 38:21
52:12	<b>5,000</b> 47:15	<b>academic</b> 7:4	<b>actually</b> 12:10
<b>16</b> 25:17	<b>50</b> 12:18	<b>accelerate</b> 49:4	13:20 38:8
<b>17</b> 17:15	<b>53</b> 3:3	<b>acceptance</b>	39:15 40:19,20
<b>180,000</b> 25:15	<b>55</b> 3:11	25:19	53:19 54:11,19
<b>1st</b> 11:20	<b>56</b> 3:5	<b>access</b> 13:18	55:9 58:8
<b>2</b>	<b>57</b> 3:3 5:7	19:15,19 32:2	<b>acumen</b> 33:21
<b>20</b> 34:17 35:22	57:21	38:13 41:17	37:9
41:3 58:21	<b>58</b> 3:4	<b>accountable</b>	<b>ad</b> 25:7 44:21
<b>2020</b> 13:12	<b>6</b>	51:5	46:20
<b>2023</b> 1:8 4:22	<b>60</b> 3:3	<b>accurate</b> 43:20	<b>adapt</b> 21:19
5:21 42:16	<b>6283426</b> 1:18	61:9 62:5	22:19 23:19
<b>2025</b> 30:13	<b>6716</b> 24:10	<b>achievable</b>	26:20
<b>21</b> 3:7	<b>7</b>	27:11	<b>adapting</b> 21:20
<b>23</b> 24:10	<b>72</b> 26:13	<b>achieve</b> 17:7	<b>add</b> 9:19
<b>25</b> 4:22	<b>8</b>	27:21 36:13	<b>adding</b> 24:1,6
<b>27</b> 3:5	<b>8</b> 3:5	<b>acknowledge</b>	41:12
<b>28166</b> 61:16	<b>848</b> 13:12	35:19	<b>additional</b>
<b>29</b> 3:8	<b>9</b>	<b>acknowledged</b>	15:18 18:4
<b>29640</b> 62:14	<b>9th</b> 5:5	46:2	19:8 20:13
<b>29th</b> 23:10	<b>a</b>	<b>acquire</b> 14:6	40:8
<b>3</b>	<b>ability</b> 29:21	<b>acquisition</b>	<b>additionally</b>
<b>3.0</b> 54:20	45:22 48:6	10:14,19 12:13	13:5
<b>30</b> 12:19 51:16	61:10 62:7	21:7 22:3 24:7	<b>address</b> 12:10
<b>30,000</b> 25:19	<b>able</b> 9:12 10:5	25:1,16 41:20	56:11
25:20,22	16:19 19:16	44:10 46:1	<b>addressed</b> 14:3
		56:1	<b>adjourned</b>
		<b>acquisitions</b>	60:10
		14:1,12	

<p><b>admiral</b> 2:6 3:11 9:20 40:7 57:18</p> <p><b>adopters</b> 25:18</p> <p><b>adoption</b> 7:21 26:3</p> <p><b>advantage</b> 29:16 36:13</p> <p><b>adversaries</b> 12:2 29:9</p> <p><b>advisory</b> 4:18 4:19</p> <p><b>afghanistan</b> 14:18</p> <p><b>afraid</b> 16:8</p> <p><b>agencies</b> 6:17</p> <p><b>agency</b> 4:12 21:4,14</p> <p><b>agenda</b> 5:1,2 6:2</p> <p><b>agile</b> 44:11</p> <p><b>ago</b> 8:19 36:5 39:3 44:13 47:9</p> <p><b>agree</b> 28:4 37:10</p> <p><b>agreements</b> 43:13 50:11 51:2</p> <p><b>ahead</b> 6:5 8:10 30:19 40:17 53:1</p> <p><b>ai</b> 29:13 48:8</p> <p><b>air</b> 4:15</p> <p><b>aircraft</b> 38:2</p> <p><b>align</b> 54:12,22</p> <p><b>aligned</b> 37:4</p>	<p><b>aligns</b> 55:3</p> <p><b>allies</b> 43:11 49:1 54:3</p> <p><b>allow</b> 4:9,15 14:14 15:3 16:16,18 30:5 30:9,11 58:8</p> <p><b>america</b> 28:5</p> <p><b>amounts</b> 8:2</p> <p><b>analysis</b> 24:16</p> <p><b>analytics</b> 29:12 30:12</p> <p><b>announced</b> 4:21</p> <p><b>annual</b> 25:6</p> <p><b>answer</b> 19:21</p> <p><b>answers</b> 33:10</p> <p><b>anti</b> 26:8</p> <p><b>antiquated</b> 7:16</p> <p><b>anybody</b> 28:13 40:6</p> <p><b>anymore</b> 59:11</p> <p><b>aperture</b> 17:5 28:4 56:7</p> <p><b>apis</b> 44:4</p> <p><b>appointed</b> 42:15 46:6</p> <p><b>appreciate</b> 17:15 20:17,21 27:2 28:20 31:7 37:3 41:4 42:7 48:20</p> <p><b>appreciation</b> 60:5</p> <p><b>apprehensions</b> 20:4</p>	<p><b>approach</b> 39:20</p> <p><b>approaches</b> 7:8</p> <p><b>approval</b> 12:13 13:18 15:5</p> <p><b>approve</b> 12:14</p> <p><b>area</b> 54:18</p> <p><b>areas</b> 10:4,7,9 10:17 12:1 13:18 24:7 54:13</p> <p><b>argue</b> 38:5</p> <p><b>army</b> 31:2,19 31:20 32:20 39:5,8 42:16 42:18 43:3,8 43:21 49:18 51:12</p> <p><b>artificial</b> 8:4</p> <p><b>asc</b> 10:15 15:6</p> <p><b>asking</b> 49:14</p> <p><b>assess</b> 29:18</p> <p><b>assist</b> 18:21</p> <p><b>astute</b> 44:11</p> <p><b>attend</b> 4:9</p> <p><b>attendees</b> 2:2</p> <p><b>attorney</b> 61:14 62:10</p> <p><b>audio</b> 61:8 62:3</p> <p><b>august</b> 42:16</p> <p><b>austin</b> 6:9</p> <p><b>authority</b> 10:12</p> <p><b>avail</b> 28:17</p> <p><b>availability</b> 27:17</p> <p><b>available</b> 13:8 24:15 41:13</p>	<p><b>award</b> 25:6</p> <p><b>awards</b> 25:1</p> <p><b>awareness</b> 33:19</p> <p><b>awesome</b> 31:10 40:4,4 52:1</p> <p style="text-align: center;"><b>b</b></p> <p><b>b</b> 51:14</p> <p><b>back</b> 15:9 18:14 19:22 31:19,22 36:1 36:15,21,21 39:3,17 40:1 44:3 47:20,21</p> <p><b>bad</b> 41:22</p> <p><b>ball</b> 44:16</p> <p><b>barrier</b> 12:12 15:7,18 19:18 32:14 37:12,22</p> <p><b>barriers</b> 7:20 8:13,17,22 9:7 9:17 10:4 11:16 27:3 30:15 32:22 37:16</p> <p><b>base</b> 12:19 13:17 14:12</p> <p><b>based</b> 12:21 15:10 21:7 22:1 24:20 39:1,20</p> <p><b>basic</b> 35:9,10</p> <p><b>basis</b> 32:11 38:7 39:11 41:15</p> <p><b>battalion</b> 11:21</p>
--	---	---	---

<p><b>believe</b> 22:14 22:15 <b>benefits</b> 48:1 <b>best</b> 19:2,2 30:1,1 37:5 51:7 60:1 61:10 62:6 <b>better</b> 41:1 57:6 60:5 <b>beyond</b> 30:13 54:21 <b>bias</b> 32:9 41:19 <b>big</b> 15:6 28:7 45:10 <b>bigger</b> 28:3 <b>biggest</b> 15:7 18:8,10 19:18 <b>bilateral</b> 43:14 <b>bill</b> 47:5 <b>bit</b> 11:15 33:14 33:17 43:4 47:19 53:12 <b>bitcoin</b> 55:2 <b>blended</b> 45:17 <b>blockchain</b> 54:21 <b>blocks</b> 19:4 <b>bloomberg</b> 2:3 3:4 5:15,16,17 11:7,11 17:10 17:10,14 18:2 18:7 19:6 20:16 28:13,22 30:18 40:6 52:18 58:17 <b>blow</b> 38:5 <b>blowing</b> 38:3</p>	<p><b>board</b> 1:1,2,12 2:4,5,6,7,8,9 4:5,7,14,17,18 5:10,14,22 6:4 6:8,19 7:11 8:7 12:8 21:12 27:6 31:12 34:16 36:22 43:2,7 47:16 52:10 53:4,7,8 53:16,21 54:9 58:1,1 59:19 59:21 60:10 <b>board's</b> 5:11 <b>boats</b> 23:6 26:12 <b>bomb</b> 26:9 <b>bonus</b> 47:15 <b>born</b> 8:19 <b>borrowing</b> 54:19 <b>brave</b> 7:8 <b>break</b> 16:1 <b>bred</b> 15:8 <b>bridge</b> 6:19 <b>brief</b> 29:2 <b>brilliance</b> 50:2 <b>brilliant</b> 17:2 <b>bring</b> 39:10 47:21 50:15 55:9 <b>bringing</b> 16:10 24:19 45:14,19 55:13 <b>brings</b> 25:9 <b>broad</b> 10:12 <b>broaden</b> 14:12</p>	<p><b>brought</b> 22:22 40:10 54:10 <b>bucket</b> 44:19 <b>budgeting</b> 54:14 <b>build</b> 30:9 47:5 49:20 50:8 55:8 56:22 <b>building</b> 29:5 37:9 42:12 56:18 <b>built</b> 46:13,14 57:14 <b>bunch</b> 23:11 <b>bureaucracies</b> 45:22 <b>bureaucratic</b> 8:16 <b>business</b> 24:8 31:20 55:21 58:21,22 <b>butzin</b> 62:2,15 <b>buy</b> 21:19 22:20 23:19 26:20 27:17,18 <b>buying</b> 14:7 <b>bypass</b> 13:9</p> <hr/> <p style="text-align: center;"><b>c</b></p> <hr/> <p><b>c</b> 2:1 3:1 4:1 46:15 <b>calculated</b> 25:2 54:14 <b>call</b> 32:14,22 35:3 <b>calling</b> 29:3 <b>cameras</b> 26:7</p>	<p><b>campaign</b> 33:18 <b>capabilities</b> 19:2 <b>capability</b> 24:18 44:15 <b>capital</b> 45:14 48:17 <b>cards</b> 27:13 <b>career</b> 18:19 <b>careers</b> 16:9 <b>carrier</b> 38:2 <b>cars</b> 23:6 <b>case</b> 11:8 34:20 <b>cases</b> 7:16 33:9 36:2 37:22 45:7,16,17 46:13 <b>casting</b> 13:5 <b>catalogue</b> 50:18,21 <b>catalogued</b> 33:10,11 <b>cataloguing</b> 43:19,20 <b>caught</b> 13:19 <b>ceded</b> 17:1 <b>center</b> 35:11 <b>centered</b> 41:6 <b>centralized</b> 24:18 <b>certainly</b> 28:17 39:4 <b>certificate</b> 61:1 62:1 <b>certify</b> 61:4 62:2</p>
---	---	---	---

<p><b>cetera</b> 54:14  <b>chain</b> 18:13              56:14  <b>chair</b> 2:3 5:14              28:12 52:12              58:15  <b>chairman</b>              11:10  <b>challenge</b> 32:5              32:6 45:8 50:3              51:17  <b>challenges</b> 6:22              8:20 21:16  <b>challenging</b>              40:21 45:13              46:3  <b>champion</b>              18:13  <b>champions</b>              18:16  <b>change</b> 6:15              13:21 15:16              16:7 17:3              18:18 39:19,20              56:4,6  <b>changed</b> 48:15  <b>changes</b> 5:1 9:5              17:19  <b>changing</b> 43:15  <b>charles</b> 2:7  <b>chart</b> 38:20  <b>chatting</b> 19:12  <b>chief</b> 11:18              31:4,18 42:16              45:15,15 59:13  <b>chip</b> 37:13  <b>chipping</b> 32:21</p>	<p><b>choice</b> 9:3  <b>christmas</b>              56:14  <b>cig</b> 2:12  <b>citizens</b> 52:15              57:21  <b>civilian</b> 47:11  <b>civilians</b> 48:4  <b>claim</b> 34:2  <b>clarity</b> 11:4  <b>class</b> 22:6 30:1              34:12,13  <b>classified</b> 58:5              58:10  <b>clauses</b> 41:12              41:18  <b>clear</b> 7:15 42:3  <b>clearances</b>              10:11  <b>clearly</b> 37:21              57:12  <b>clock</b> 52:13              57:20  <b>closing</b> 58:16              59:20  <b>cloud</b> 46:16,17              46:18 51:19  <b>code</b> 24:19              46:15  <b>collaborate</b>              58:9  <b>collaboration</b>              49:7  <b>colleagues</b>              30:16  <b>collect</b> 59:7  <b>collected</b> 59:1</p>	<p><b>collecting</b> 59:5  <b>collective</b> 27:20  <b>columbia</b> 61:19  <b>com</b> 51:13  <b>come</b> 37:19              46:21 47:3,20              47:21  <b>comes</b> 12:17              15:9 19:22              33:21 50:4  <b>comfortable</b>              36:12  <b>coming</b> 17:17              19:12 22:16,16              26:12 53:18              57:1  <b>command</b>              18:13 42:19              43:3 56:14  <b>comment</b> 8:8              18:4  <b>comments</b> 5:7              5:9,10 19:8,9              27:6 28:9              30:17 36:21              40:8 48:20              52:14,16 53:4              57:21 59:20  <b>commercial</b>              21:4,7,22              22:17 24:4,15              25:4 26:9              59:11  <b>commercializ...</b>              22:11  <b>committee</b> 4:19              28:16</p>	<p><b>common</b> 44:6,6              49:17,18,19  <b>communicate</b>              57:6,12  <b>communicati...</b>              49:7  <b>community</b>              7:13 22:16              24:11 27:20              32:1 41:20              47:17  <b>companies</b>              12:18 28:7              41:5,6 58:4  <b>company</b> 13:16  <b>company's</b>              58:21  <b>compare</b> 38:1  <b>compete</b> 37:22              47:14 59:10,10  <b>competition</b>              13:4 14:2,13              26:16  <b>complex</b> 22:4              24:3  <b>compliance</b>              15:8,10,13              21:7  <b>compliant</b>              16:21  <b>compliment</b>              11:8  <b>comply</b> 15:12  <b>complying</b>              15:17  <b>compromised</b>              33:7</p>
--	---	--	--

<p><b>computation</b> 59:3  <b>compute</b> 46:19  <b>concept</b> 33:19  <b>concepts</b> 11:22  <b>concerned</b> 43:8  <b>conclude</b> 52:8  <b>concluded</b> 60:12  <b>connell</b> 2:12 3:7 21:2,11 27:15 28:11,20  <b>consider</b> 24:22  <b>consideration</b> 5:11 58:2  <b>constantly</b> 15:19,21 23:17  <b>constrains</b> 57:1  <b>constraints</b> 56:21  <b>contactors</b> 14:19  <b>context</b> 22:21  <b>continue</b> 18:19  <b>continued</b> 14:3  <b>continues</b> 7:12  <b>contract</b> 20:6 21:4 41:12 42:5 51:20  <b>contracting</b> 54:13  <b>contractor</b> 40:11 47:12,13  <b>contractors</b> 41:20  <b>contracts</b> 14:17 27:14 41:1</p>	<p><b>control</b> 44:4  <b>controlled</b> 23:6  <b>convene</b> 4:14  <b>conversation</b> 21:12 56:3  <b>conversations</b> 7:15  <b>convoy</b> 26:9  <b>coolest</b> 22:7,13 22:15  <b>corporate</b> 41:2  <b>corps</b> 11:21 17:12  <b>cost</b> 13:1 21:6,6 47:3 58:11  <b>costly</b> 58:6  <b>costs</b> 56:10  <b>cots</b> 23:3 24:15  <b>counsel</b> 61:11 61:14 62:7,10  <b>counter</b> 39:9  <b>country</b> 17:21 26:7 60:5  <b>couple</b> 21:20 23:5 29:17 31:16 38:16 40:18  <b>course</b> 43:10  <b>cover</b> 7:20 54:15  <b>crack</b> 45:13  <b>craft</b> 16:19  <b>create</b> 22:20 58:9  <b>created</b> 12:20 13:4 22:7  <b>creating</b> 17:5 26:18 58:4</p>	<p><b>creative</b> 25:3 47:16  <b>credit</b> 27:13  <b>crisis</b> 45:1  <b>critical</b> 19:16  <b>crutch</b> 32:15  <b>crystal</b> 44:16  <b>cto</b> 45:15  <b>cultural</b> 32:14 39:10 41:19  <b>culture</b> 15:8 32:15,17  <b>current</b> 5:12 21:3 29:18 30:9,10 52:16  <b>currently</b> 11:19 20:8  <b>cut</b> 58:11  <b>cutting</b> 8:3  <b>cw03</b> 2:11  <b>cyber</b> 33:4 55:3  <b>cycle</b> 44:10</p>	<p>33:11,19,20,21 33:21 34:3,4,6 34:8,12,12,19 35:11,11,13,13 35:14 36:1,6,7 36:9,12,18 37:7,9,22 38:6 38:11,13,19,21 38:22 39:14,15 39:18,20 40:11 41:6,7,10,12 42:16 43:13,13 43:18,20 44:1 44:2,5,10 45:15 46:10,11 47:5 49:3,13 49:13,14,14,15 49:16 50:4,5,9 50:19,22 51:2 51:11 52:7 58:20,22 59:5 59:7,13</p>
		<b>d</b>	<p><b>data's</b> 29:15  <b>day</b> 7:3 23:14 24:18 27:17,18 31:12 34:2,3,8 36:10 40:22 41:7 42:4,5  <b>dc</b> 13:16  <b>dcma</b> 2:12  <b>decade</b> 22:18 41:2  <b>decision</b> 29:16 32:4,12 34:4 39:19,21  <b>decisions</b> 39:1 39:16,18 50:20</p>
		<p><b>d</b> 4:1 12:15  <b>daily</b> 54:6  <b>dark</b> 18:15  <b>dashboards</b> 38:18  <b>data</b> 8:2 10:15 14:6,9,13 19:14,15,19 20:3 29:3,5,11 29:12,19,22 30:11,12,15 31:4,18 32:1,2 32:4,9,11 33:1 33:2,2,5,6,7,10</p>	

<p><b>decisive</b> 22:18  <b>decreased</b>                  39:22  <b>dedicated</b>                  46:12  <b>defending</b>                  54:22 55:4                  60:5  <b>defense</b> 1:1,12                  4:4,7,11 5:14                  5:22 6:10 7:13                  8:2,15 21:3                  26:14 38:17                  39:13,13 41:8                  53:3,7,21 58:4                  59:18  <b>define</b> 24:20  <b>defined</b> 24:12  <b>definitely</b>                  19:13 21:15  <b>delighted</b> 11:14  <b>delirious</b> 41:11  <b>deliver</b> 9:8,11                  58:12  <b>delivering</b> 22:6  <b>delve</b> 52:13  <b>demand</b> 47:14  <b>demanding</b> 7:9                  39:15  <b>department</b>                  6:10,12 7:18                  8:2,3 23:10                  26:21 29:16                  30:2 31:4,18                  38:11 39:8                  53:10  <b>department's</b>                  7:7</p>	<p><b>dependent</b> 4:18  <b>deploy</b> 19:20  <b>deputy</b> 21:3                  31:2 38:17                  39:13  <b>derived</b> 57:9  <b>designated</b> 4:5  <b>designed</b> 7:7                  22:4  <b>desire</b> 15:16  <b>desperately</b>                  36:14  <b>despite</b> 23:13                  27:19  <b>destructive</b>                  29:12  <b>detriment</b> 42:2  <b>develop</b> 16:20                  30:8  <b>developed</b> 8:19                  9:13  <b>developing</b> 7:6                  22:13 24:2                  26:8  <b>development</b>                  15:2 42:18  <b>dialogue</b> 50:15  <b>dib</b> 1:5 2:10 6:1                  54:10 55:12,16  <b>difference</b> 28:2                  60:2  <b>different</b> 7:14                  8:20 22:14                  31:16 35:2,14                  54:13 57:2                  59:8  <b>differently</b>                  28:8 35:15</p>	<p><b>difficult</b> 13:6                  15:22 18:17                  40:15  <b>difficulty</b> 27:18  <b>diffusion</b> 25:15  <b>digital</b> 34:19                  61:8 62:3  <b>digitizing</b> 8:1  <b>director</b> 4:4                  5:19 21:3 31:2                  42:17  <b>discovery</b> 40:1                  40:2  <b>discretionary</b>                  4:17  <b>discuss</b> 6:5  <b>display</b> 44:5  <b>disruptions</b>                  22:11  <b>district</b> 61:19  <b>diverse</b> 7:12  <b>dmags</b> 38:16  <b>doctor</b> 12:7  <b>documenting</b>                  24:14  <b>documents</b>                  44:4  <b>dod</b> 14:4 15:8                  16:4 22:13                  25:6,12,16                  29:6,10,19                  30:12 31:22                  32:5 35:12,13                  39:9 40:3                  41:11,13 46:10                  47:14,22 53:18                  53:20 54:2                  55:6,10 58:12</p>	<p><b>doing</b> 8:2 13:20                  14:20 24:8                  28:3 31:20                  32:19 34:9                  35:1 38:3 53:7  <b>domain</b> 55:7  <b>door</b> 15:21  <b>dozens</b> 7:14  <b>dr</b> 1:5 2:9,10                  3:3 4:2,3 11:13                  18:3 19:7                  20:12,17,20                  27:1 28:12                  30:21 36:16                  40:7 42:9 52:3                  53:6 57:17                  60:7  <b>dragging</b> 7:2  <b>drawn</b> 31:17  <b>drill</b> 23:10  <b>drive</b> 32:4                  55:22  <b>driven</b> 30:8                  36:6  <b>drone</b> 13:13,17  <b>drones</b> 23:3,11  <b>dual</b> 17:5  <b>duct</b> 23:4  <b>due</b> 12:22  <b>duly</b> 61:5  <b>duty</b> 15:20</p> <hr/> <p style="text-align: center;"><b>e</b></p> <hr/> <p><b>e</b> 2:1,1 3:1 4:1                  4:1  <b>earlier</b> 22:22                  34:16,17 37:21</p>
---	--	---	---

<p><b>early</b> 25:18  <b>earn</b> 47:19,22  <b>easier</b> 13:17  <b>easiest</b> 8:22 9:1              42:6  <b>easy</b> 19:21  <b>echelon</b> 46:10              46:12 47:6              48:13 51:18              52:7  <b>echelons</b> 46:9  <b>economy</b> 29:3              29:6,19 30:12              30:15  <b>ecosystem</b> 8:16              10:13 57:6  <b>edge</b> 8:3 15:3  <b>effect</b> 39:22  <b>effectiveness</b>              39:18  <b>effects</b> 41:11  <b>efficient</b> 45:21              47:2  <b>effort</b> 58:11  <b>efforts</b> 5:12              53:9  <b>embrace</b> 54:14  <b>emerge</b> 7:3  <b>employed</b>              61:11,14 62:8              62:11  <b>employee</b>              61:13 62:10  <b>empower</b> 6:21  <b>enable</b> 9:7              14:15  <b>encourage</b> 16:4</p>	<p><b>endeavor</b> 58:5  <b>enforce</b> 14:13  <b>enforces</b> 15:13  <b>engage</b> 33:18  <b>engineering</b>              46:16  <b>enhance</b> 29:15  <b>enterprise</b> 31:3              47:1  <b>entire</b> 17:2              56:1 59:18  <b>entrepreneurs</b>              28:6  <b>environment</b>              33:8 45:9              58:10  <b>environments</b>              50:8  <b>envisioned</b>              59:9  <b>epiphany</b> 33:15  <b>equipment</b>              14:6 20:9  <b>era</b> 22:13  <b>es</b> 61:4  <b>especially</b> 6:16              49:2  <b>esper</b> 39:4  <b>essentially</b>              12:18  <b>estimating</b> 21:6  <b>et</b> 54:14  <b>event</b> 4:13  <b>everyone's</b>              52:19  <b>exactly</b> 27:10              27:19</p>	<p><b>examining</b> 7:4  <b>example</b> 13:11              13:14 22:9              26:8  <b>excited</b> 4:6              8:14 21:15  <b>execute</b> 23:14              23:18  <b>executing</b> 22:2  <b>executive</b> 1:5              2:10 4:4 5:18  <b>exfiltrated</b> 33:8  <b>exist</b> 57:10              58:22  <b>existing</b> 24:4              25:4  <b>exists</b> 21:21              24:21  <b>expands</b> 8:3  <b>expect</b> 15:11              59:13  <b>expected</b> 26:5  <b>expensive</b> 44:3              56:15  <b>experience</b>              17:18 21:5  <b>expert</b> 34:6  <b>expertise</b> 16:12              24:20 54:13  <b>experts</b> 16:17  <b>expired</b> 23:15  <b>explore</b> 54:16              57:16  <b>exploring</b>              24:17,22 54:9              54:12  <b>explosives</b> 23:7</p>	<p><b>express</b> 60:6</p> <hr/> <p style="text-align: center;"><b>f</b></p> <hr/> <p><b>face</b> 6:21 12:12  <b>facilities</b> 10:11  <b>facility</b> 58:5  <b>facing</b> 11:15,16  <b>facts</b> 32:12  <b>fairness</b> 22:5  <b>fall</b> 1:2 4:7 5:21  <b>far</b> 24:7,12              30:17 41:14,17  <b>fascinating</b>              39:6  <b>fast</b> 59:3  <b>faster</b> 9:8  <b>fear</b> 40:2 42:1              54:17  <b>federal</b> 4:5,18              4:22 5:3  <b>feedback</b> 5:5              52:4  <b>fellow</b> 29:6  <b>field</b> 40:12  <b>fielding</b> 14:1  <b>fifth</b> 55:7  <b>fight</b> 13:19              43:10  <b>fighter</b> 12:16              14:8 29:10  <b>fighting</b> 43:8              49:16  <b>fight</b> 43:10  <b>figure</b> 26:19              58:7  <b>figured</b> 21:19  <b>final</b> 16:14</p>
---	---	---	--



<p><b>finally</b> 30:7  <b>financially</b>          61:15 62:11  <b>find</b> 10:21 13:7          15:16 18:13,17          25:7 26:1  <b>finding</b> 25:3  <b>finite</b> 44:9  <b>fire</b> 23:10  <b>fires</b> 49:21,21          49:22 51:1  <b>firms</b> 48:7  <b>first</b> 5:18 6:3          7:19 8:7 11:18          29:18 36:3  <b>firsthand</b> 14:18  <b>fit</b> 44:9  <b>five</b> 12:5,14,18          18:18 21:10          31:8 42:22          44:12  <b>fix</b> 14:9 19:17          23:21  <b>floor</b> 8:9 12:5          21:9 31:8          42:14,21 55:14          55:18  <b>focus</b> 53:11  <b>focused</b> 8:1          15:17 46:12  <b>followers</b> 25:20  <b>fonseca</b> 2:14          3:10 42:14,15          43:1 49:10  <b>force</b> 33:18          36:7 49:1  <b>forefront</b> 6:13</p>	<p><b>foregoing</b> 61:3          61:4 62:4  <b>forge</b> 13:6  <b>form</b> 57:13  <b>former</b> 8:5  <b>forum</b> 53:22  <b>forward</b> 52:20          54:10 55:13  <b>found</b> 31:21  <b>founder</b> 21:3  <b>founders</b> 53:15  <b>four</b> 44:13          57:19  <b>frame</b> 43:6  <b>frameworks</b>          30:4  <b>fraught</b> 8:16  <b>free</b> 20:5  <b>freeing</b> 21:12  <b>freely</b> 41:13  <b>front</b> 42:3  <b>frontline</b> 11:17  <b>full</b> 12:9 51:21  <b>functioning</b>          7:17  <b>fundamentals</b>          34:11,14  <b>funding</b> 37:21  <b>funds</b> 23:15  <b>further</b> 16:20          24:11 61:13          62:9  <b>future</b> 11:20          52:14</p>	<p><b>gain</b> 7:12  <b>gaps</b> 29:19  <b>gcc</b> 51:13  <b>general</b> 33:20          35:4  <b>generally</b> 34:18  <b>generative</b>          29:13  <b>getting</b> 14:8          19:14,19 34:14          41:7 45:7  <b>gig</b> 41:5  <b>give</b> 7:8 20:1,2          41:17 47:15          54:15  <b>given</b> 10:5  <b>gives</b> 17:18  <b>giving</b> 20:3  <b>glad</b> 5:19 7:11  <b>global</b> 6:12  <b>go</b> 8:9 9:21          20:13 30:19          40:1 41:14          44:3 59:13  <b>goes</b> 19:22          34:15  <b>going</b> 11:3          12:10,17 14:20          15:3 20:1,2,7          25:22 27:13          30:5,9,10          31:15 39:17          46:11,17 47:4          52:5 56:4  <b>good</b> 9:12 13:3          15:11 17:8          23:14 25:3          56:19 57:4,5</p>	<p>57:22  <b>goodness</b> 47:21  <b>google</b> 48:8  <b>gordon</b> 2:4 3:5          8:5,11 10:7          11:9 16:22          27:7,16 56:17  <b>govern</b> 50:17          51:4  <b>government</b>          4:19 32:6          41:13 42:2          46:4 48:4          55:10  <b>gps</b> 22:9  <b>gpt</b> 44:14  <b>grades</b> 16:11  <b>great</b> 14:6          17:18 22:9          36:17 40:20          50:13  <b>greatest</b> 12:12  <b>grew</b> 55:21  <b>ground</b> 17:18  <b>group</b> 7:12          21:4  <b>guess</b> 9:22  <b>guest</b> 2:11,12          2:13,14  <b>guests</b> 9:15  <b>guevara</b> 1:17          61:2,17  <b>gunnery</b> 19:1  <b>guy</b> 46:16  <b>guys</b> 37:13</p>
	<b>g</b>		
	<b>g</b> 4:1		

<p><b>h</b></p> <p><b>hamas</b> 7:2</p> <p><b>hands</b> 9:14 12:15 23:2,19</p> <p><b>hang</b> 56:14</p> <p><b>happen</b> 4:13 26:4</p> <p><b>happening</b> 39:2 49:2</p> <p><b>happens</b> 25:18</p> <p><b>happy</b> 29:5</p> <p><b>hard</b> 15:15 29:20 32:17 52:19</p> <p><b>hardest</b> 36:2</p> <p><b>harness</b> 29:11</p> <p><b>hawaii</b> 43:4 59:13</p> <p><b>headquarters</b> 51:13</p> <p><b>hear</b> 11:5</p> <p><b>heard</b> 47:9 54:11</p> <p><b>hearing</b> 17:17</p> <p><b>heidi</b> 59:17</p> <p><b>held</b> 10:22</p> <p><b>hello</b> 4:2 5:20</p> <p><b>help</b> 6:19,20 7:7 11:14 24:20 28:9 38:9,10 43:6 46:17 49:8</p> <p><b>helpful</b> 45:2</p> <p><b>hereto</b> 61:15 62:11</p> <p><b>hey</b> 16:6 18:6 40:9 55:19</p>	<p><b>high</b> 29:8 46:13 47:12 48:10</p> <p><b>higher</b> 37:15 48:6 51:12</p> <p><b>highlight</b> 10:2 17:4 57:20 58:3</p> <p><b>highlighted</b> 27:8</p> <p><b>highlighting</b> 5:6 24:17</p> <p><b>hiring</b> 39:22</p> <p><b>hit</b> 12:10</p> <p><b>hoc</b> 25:7 44:21 46:20</p> <p><b>hoffman</b> 2:5 53:16</p> <p><b>hold</b> 36:1 51:4</p> <p><b>home</b> 19:20</p> <p><b>hope</b> 17:18 26:21</p> <p><b>hopefully</b> 60:2</p> <p><b>horn</b> 9:21</p> <p><b>hours</b> 23:5 26:13</p> <p><b>hqe</b> 45:19 51:13</p> <p><b>huge</b> 25:10 28:2 47:14</p> <p><b>human</b> 45:14 48:17</p> <p><b>humans</b> 51:19</p> <p><b>hundreds</b> 26:13</p> <p><b>hybrid</b> 46:17</p>	<p><b>i</b></p> <p><b>idea</b> 24:1 27:12</p> <p><b>ideas</b> 19:2 23:14,21 53:22 54:19 55:12,15</p> <p><b>identifying</b> 29:19</p> <p><b>impact</b> 9:1,12 33:7</p> <p><b>impediments</b> 8:18</p> <p><b>imperative</b> 29:10</p> <p><b>implementable</b> 9:2</p> <p><b>implementing</b> 9:4</p> <p><b>important</b> 31:13 37:9,17 38:12,14 57:8</p> <p><b>importantly</b> 32:3 33:11 39:17</p> <p><b>imposed</b> 8:17</p> <p><b>improve</b> 15:22 29:21</p> <p><b>incentive</b> 25:1</p> <p><b>incentives</b> 25:7 54:12</p> <p><b>incentivize</b> 47:21 48:3</p> <p><b>include</b> 54:20</p> <p><b>including</b> 59:19</p> <p><b>increased</b> 26:16</p>	<p><b>increasingly</b> 7:15</p> <p><b>incursion</b> 33:4</p> <p><b>independent</b> 6:8</p> <p><b>individual</b> 10:11 45:21</p> <p><b>individuals</b> 16:11 25:8 56:13</p> <p><b>indoctrinate</b> 46:3</p> <p><b>industrial</b> 12:19,20,21 14:12</p> <p><b>industry</b> 13:20 20:5 22:11 30:1 37:5 45:20 47:18 55:10</p> <p><b>inefficient</b> 8:17</p> <p><b>infinite</b> 55:7</p> <p><b>inform</b> 5:11</p> <p><b>information</b> 10:19 39:1 41:17 49:5 53:3</p> <p><b>informs</b> 7:19</p> <p><b>infrastructure</b> 58:10</p> <p><b>initial</b> 27:6</p> <p><b>initiatives</b> 30:10</p> <p><b>innovate</b> 29:9 54:3,16</p> <p><b>innovation</b> 1:1 1:12 4:5,7 5:14 5:22 7:18 8:13</p>
--	--	--	--

<p>8:15 10:18                  11:16 13:15                  17:3 25:15                  53:4,7,10,20                  53:21 55:9                  59:18  <b>innovative</b> 13:7  <b>innovators</b>                  25:17 53:14,18                  53:22 57:1  <b>inside</b> 14:14  <b>insight</b> 7:12                  48:21 57:18  <b>insightful</b>                  52:11  <b>insights</b> 18:5                  27:2 31:8                  36:17,22 37:3                  42:11,21 57:22  <b>instance</b> 46:17  <b>instantaneou...</b>                  33:5  <b>integrators</b>                  41:9  <b>intel</b> 24:11 44:6  <b>intelligence</b> 8:4                  32:1  <b>intensely</b> 24:12  <b>intention</b> 27:19  <b>interdependent</b>                  45:18  <b>interest</b> 57:13  <b>interested</b> 35:8                  61:15 62:12  <b>interesting</b>                  32:9 57:15  <b>interests</b> 57:15</p>	<p><b>interface</b> 44:4  <b>interim</b> 6:3  <b>internal</b> 15:7  <b>internally</b> 16:3  <b>interrelated</b>                  31:17  <b>intracity</b> 29:15  <b>introduce</b>                  11:12 21:1                  30:19  <b>inventory</b> 36:1  <b>inventorying</b>                  33:1  <b>invite</b> 9:15 29:6                  30:14 42:13  <b>invited</b> 5:4  <b>involved</b> 4:13                  23:12  <b>involving</b> 10:18  <b>israel</b> 45:1 54:6  <b>israel's</b> 7:2  <b>issue</b> 15:14                  40:10  <b>issues</b> 7:3 27:8                  53:9  <b>item</b> 21:4  <b>items</b> 6:1</p>	<p><b>join</b> 15:15  <b>joining</b> 4:3                  5:21 12:4 60:9  <b>joint</b> 43:9 45:9                  47:1 48:16                  49:1,20  <b>jokingly</b> 34:11  <b>jump</b> 11:2  <b>junior</b> 18:22  <b>justice</b> 14:17</p>	<p>25:12,21,22                  26:5,6 27:7,14                  29:8 31:21                  33:3,9 34:3,7                  34:17 37:4                  38:7,21 40:11                  42:5 45:7 48:1                  48:8,10 50:1                  50:12,13 51:15                  51:19 53:16                  56:17 57:11</p>
		<b>k</b>	<p><b>knowing</b> 32:1                  33:2  <b>knowledge</b>                  32:3 33:19                  35:4 61:10                  62:6  <b>known</b> 6:1  <b>knows</b> 46:16</p>
			<b>l</b>
			<p><b>l</b> 48:8  <b>lacks</b> 45:21  <b>language</b> 29:13  <b>large</b> 29:13                  31:15 32:6                  48:7  <b>lastly</b> 26:15  <b>law</b> 25:14,16                  26:3  <b>lawsuits</b> 42:1  <b>layers</b> 18:12  <b>lead</b> 13:1  <b>leader</b> 6:12                  35:2  <b>leaders</b> 6:10                  7:7,13 16:4,8                  34:2 38:10</p>
	<b>j</b>		
	<p><b>january</b> 52:21                  59:22  <b>japanese</b> 13:18  <b>job</b> 1:18 6:19                  15:20 16:21                  17:2 24:18                  50:13  <b>jobs</b> 7:10 15:14</p>	<p><b>keep</b> 6:18 12:1                  26:1 52:5  <b>key</b> 9:17 30:15                  53:9 54:8,18  <b>kick</b> 7:4 8:12                  29:5  <b>kill</b> 16:15  <b>kills</b> 13:13  <b>kind</b> 11:16                  20:5 22:20                  25:12 26:3,5                  28:2 29:22                  31:13 35:4                  37:5 39:9                  41:19 42:2                  45:7,8 57:14  <b>kinds</b> 10:2  <b>kinetic</b> 49:22  <b>knew</b> 33:5  <b>know</b> 8:15 10:1                  10:5 12:13                  13:5 14:3 16:2                  16:12 21:13,17                  21:18 22:6,9                  22:22 23:9,11                  23:17 24:1,7</p>	

<p>39:8,10 49:13 54:15 <b>leading</b> 6:4 8:5 15:3 <b>learn</b> 14:14 16:19 22:19 41:9 <b>learned</b> 33:16 <b>learning</b> 16:1 33:18 35:9 <b>leave</b> 36:4 41:18 47:18 48:4,12 <b>led</b> 22:11,13 33:14 <b>left</b> 52:13 <b>leg</b> 53:12 <b>legal</b> 41:15,17 <b>legitimate</b> 38:3 38:18 <b>lei</b> 59:14 <b>lengthy</b> 15:5 <b>lesson</b> 33:16 <b>letting</b> 20:5 26:18 <b>level</b> 29:8 32:22 35:2 37:15 38:11 50:17 56:13 <b>levels</b> 37:12 <b>leverage</b> 19:16 25:4 <b>leveraging</b> 54:20 <b>lies</b> 28:5 <b>light</b> 6:17 <b>linkedin</b> 25:11 25:21 53:14,15</p>	<p>53:17 <b>list</b> 2:2 <b>listen</b> 9:16 29:8 37:2 <b>listened</b> 53:14 <b>listening</b> 25:22 53:20 55:20 <b>literally</b> 34:8 <b>little</b> 11:15 33:14,17 43:4 47:19 53:12 <b>live</b> 4:9 <b>lived</b> 47:9 <b>livestreamed</b> 4:8 <b>living</b> 46:1 <b>llm</b> 44:14 <b>logistical</b> 12:1 <b>long</b> 8:19 17:11 20:7 <b>look</b> 6:5 10:20 17:14 21:17 22:18,21 23:7 25:14 29:20 37:18 40:22 41:5 48:13 52:19 53:1 58:20 <b>looked</b> 38:18 53:12 <b>looking</b> 10:3,9 23:11 24:9 27:10 28:7 54:2,18 55:17 56:2 <b>lose</b> 48:1,5 <b>lost</b> 47:11</p>	<p><b>lot</b> 13:4 15:5 16:8 17:16 19:22 20:4,7 22:12,15 23:13 27:8 40:3,16 46:16 <b>lots</b> 59:7 <b>love</b> 27:12 36:17 46:20 <b>lower</b> 32:22 37:12 46:9 <b>lowering</b> 7:20 8:12</p> <p style="text-align: center;"><b>m</b></p> <p><b>ma'am</b> 17:9 28:11 43:1 <b>mac</b> 2:9 <b>macro</b> 27:8 <b>made</b> 22:12 38:22 40:15 <b>main</b> 6:1 <b>maine</b> 26:12 <b>maintain</b> 14:9 20:9 <b>maintenance</b> 11:20,22 14:19 14:20 <b>make</b> 4:13 10:20 17:19 20:6,7 21:18 22:20 27:17 28:2 34:4 35:19 37:17 38:11,12,13,13 39:21 40:16 46:21,22 49:4 50:11,16,20</p>	<p>56:15 <b>makes</b> 22:7 <b>making</b> 12:4 16:20 19:8 22:4 32:4,12 35:11 39:16 42:3 52:20 60:2 <b>manage</b> 48:17 <b>management</b> 21:4 31:3 33:22 <b>manages</b> 35:12 <b>manner</b> 44:20 <b>marina</b> 1:5 2:10 3:3 4:3 5:17 11:11 18:2 19:6 36:15 40:6 52:18 53:2 55:19 58:18 <b>marine</b> 11:21 14:20 17:11 19:1 <b>market</b> 21:7 24:13,19 <b>marketplace</b> 24:5,21 26:17 26:19 <b>marketspace</b> 21:22 <b>mass</b> 25:19 26:3 <b>master</b> 19:1 <b>matt</b> 2:11 3:6 11:19 12:3 17:10 18:6 20:13,15,16,21</p>
--	---	---	---

<p>37:20 40:9  <b>matt's</b> 18:4  <b>matthew</b> 16:22  <b>maximum</b>                  23:13  <b>mean</b> 9:1 18:12                  40:11 51:19  <b>meaning</b> 21:20  <b>meaningful</b>                  9:11 38:19  <b>measuring</b>                  39:17  <b>mechanisms</b>                  10:14  <b>media</b> 4:11  <b>meet</b> 26:17,19  <b>meeting</b> 1:2 4:7                  4:8,21 5:18,22                  39:7 52:21                  59:22 60:10,12  <b>meeting's</b> 5:2  <b>meetings</b> 38:18                  39:16  <b>member</b> 2:4,5                  2:6,7,8,9 53:16  <b>members</b> 4:9                  7:9 8:7 11:2                  12:22 18:4                  29:7 31:12                  43:2 52:10                  53:8 54:10                  55:14,18 58:14                  59:20 60:8  <b>men</b> 6:21  <b>mention</b> 36:17                  37:12  <b>mentioned</b>                  19:14 37:20</p>	<p>42:12 43:3,6                  43:19 53:17  <b>meredith</b> 2:14                  3:10 42:13,20                  44:14 48:20                  50:19 52:2,4  <b>message</b> 31:14  <b>metrics</b> 30:4                  38:19  <b>michael</b> 2:3 3:4  <b>micro</b> 27:8  <b>microsoft</b> 48:7  <b>mid</b> 35:4  <b>migrant</b> 25:12  <b>mike</b> 2:6 3:11                  5:14 8:11 10:8                  11:3 17:10                  18:6,7 29:4                  56:17  <b>military</b> 6:13                  15:15 22:10                  26:10,17 36:7                  38:4 56:5                  59:10 60:3  <b>mind</b> 37:15,19                  52:5  <b>mindset</b> 22:20  <b>minutes</b> 12:5                  21:10 31:9                  42:22 52:13                  57:19  <b>missed</b> 9:19  <b>missing</b> 55:3  <b>mission</b> 6:8                  26:8 36:12                  43:10,14 50:8  <b>model</b> 23:19,20</p>	<p><b>models</b> 29:13  <b>moderated</b> 1:5  <b>modern</b> 36:6                  41:5  <b>modernize</b>                  47:6  <b>moment</b> 10:21                  28:5  <b>monday</b> 39:5,7  <b>monetary</b> 25:1  <b>monetize</b> 25:7                  41:10  <b>money</b> 19:21                  20:7 40:16                  56:10  <b>monopolies</b>                  13:1  <b>monopoly</b> 20:2  <b>morning</b> 39:5,7  <b>motto</b> 9:8 16:2  <b>mounted</b> 26:7  <b>mouth</b> 27:13  <b>move</b> 9:7,12                  16:21 49:9  <b>moved</b> 15:20  <b>movie</b> 26:6  <b>moving</b> 6:16                  15:19 44:17  <b>mullen</b> 2:6 3:11                  9:20,22 18:6,6                  19:3 40:7,9                  42:8 55:19                  57:18  <b>multi</b> 58:5  <b>multinational</b>                  48:14  <b>mute</b> 19:11</p>	<p><b>n</b>  <b>n</b> 2:1 3:1,1 4:1  <b>narrow</b> 9:10  <b>nation</b> 43:15                  43:15 44:22                  47:4 50:14                  55:1,5,8  <b>national</b> 28:8                  57:9  <b>nations</b> 43:17                  50:11  <b>native</b> 34:19  <b>natives</b> 34:20  <b>nato</b> 43:12                  48:15  <b>navigate</b> 45:22  <b>navy</b> 31:5,19                  32:20 38:15                  49:19  <b>ndaa</b> 13:13                  24:10  <b>ndi</b> 24:15  <b>near</b> 12:2                  13:16  <b>necessarily</b>                  21:14 32:13  <b>necessary</b>                  57:11 58:12  <b>neck</b> 59:14  <b>need</b> 7:9 9:14                  10:15 14:10,10                  14:15,16,18                  15:1 16:3 17:5                  19:17 22:19                  24:12 34:12,21                  35:19,19,22                  36:8,11,14</p>
--	--	--	--

<p>38:11,12,12,13 45:9 50:19 54:15 56:20 <b>needed</b> 14:22 <b>needle</b> 49:9 <b>needs</b> 25:5 30:2 35:14 57:14 <b>negotiation</b> 21:6 <b>neither</b> 61:11 62:7 <b>network</b> 23:12 49:21 <b>networks</b> 50:9 <b>never</b> 59:1,5,8 <b>new</b> 4:4 7:3,8 41:5 54:16 59:4 <b>newest</b> 22:14 22:15 <b>non</b> 58:8 <b>noon</b> 5:6 <b>normal</b> 25:6 35:14 <b>notary</b> 61:18 <b>note</b> 36:20 <b>notice</b> 4:22 5:3 <b>noticed</b> 32:7,8 <b>november</b> 1:8 5:6 <b>number</b> 24:9 34:1 38:8 47:11 <b>nut</b> 45:13</p>	<p><b>observations</b> 27:4 <b>obverse</b> 57:5 <b>obvious</b> 59:6 <b>obviously</b> 10:1 18:12 40:11 <b>occupational</b> 35:10 <b>occurred</b> 58:19 <b>october</b> 4:22 <b>oddly</b> 32:10 <b>offer</b> 9:15 <b>office</b> 31:3 <b>officer</b> 1:6 2:10 4:5 11:19,20 31:4,18 42:16 45:15,16 51:11 55:21 59:13 61:2 <b>officer's</b> 35:8 <b>offs</b> 17:6 <b>oftentimes</b> 45:20 <b>oh</b> 9:8 23:1 32:16 46:6,14 47:15 <b>okay</b> 28:22 42:8 46:18 51:1 <b>okinawa</b> 13:15 <b>old</b> 17:14 <b>once</b> 22:10 <b>ones</b> 7:4 50:7 57:13 <b>online</b> 5:20 <b>ontology</b> 50:21 <b>open</b> 1:2 15:1 15:21 28:3</p>	<p>36:21 55:14,18 56:7 <b>opening</b> 17:5 <b>operate</b> 10:12 13:18 <b>operated</b> 4:18 47:13 <b>operating</b> 45:9 <b>operational</b> 36:13 44:6 49:17,19,20 <b>operations</b> 11:20 31:20 42:18 47:10 <b>opinion</b> 35:8 <b>opinions</b> 21:13 <b>opportunities</b> 8:20 29:20 47:13 48:7,9 <b>opportunity</b> 8:8 18:1 25:7 27:17 28:8 38:16 <b>opposed</b> 44:12 <b>optimizes</b> 54:2 <b>order</b> 27:11 29:9 49:4 <b>organization</b> 32:17 37:16 <b>organizations</b> 45:14 46:8 49:6 53:13 <b>organizing</b> 8:1 <b>oriented</b> 50:20 <b>ornaments</b> 56:14 <b>ought</b> 9:16</p>	<p><b>outcome</b> 9:8 17:7 30:8 56:20 61:16 62:12 <b>outcomes</b> 32:5 <b>outright</b> 20:9 <b>outside</b> 25:5 <b>overcome</b> 50:6 50:10 <b>overhead</b> 8:16 <b>overly</b> 24:2 <b>overmatch</b> 36:13 51:15 <b>own</b> 9:3 20:9 39:16 58:4 <b>owned</b> 44:2 47:12</p>
			<b>p</b>
			<p><b>p</b> 2:1,1 4:1 <b>p.m.</b> 1:9 60:13 <b>pace</b> 6:15 12:1 <b>pacific</b> 42:16 43:3 45:5 50:19,20 51:12 <b>pacing</b> 45:4 48:15 <b>page</b> 3:2 <b>palm</b> 44:12,14 <b>panel</b> 17:21 19:12 <b>part</b> 12:17 23:10 24:13 31:15 35:11 37:8 43:22 57:7 <b>participate</b> 26:21 38:16</p>

<p><b>particularly</b> 27:12</p> <p><b>parties</b> 61:12 61:14 62:8,11</p> <p><b>partner</b> 43:9 45:10 50:8</p> <p><b>partnering</b> 49:1</p> <p><b>partners</b> 9:13 43:11,14 50:4 54:3</p> <p><b>parts</b> 13:6</p> <p><b>past</b> 23:9</p> <p><b>pay</b> 51:13</p> <p><b>payer</b> 47:5</p> <p><b>payers</b> 12:22</p> <p><b>paying</b> 47:12 48:6,10</p> <p><b>peer</b> 12:2</p> <p><b>people</b> 10:18 16:16 25:21,22 34:14 37:6,8 51:16</p> <p><b>percent</b> 25:17 35:22 58:21</p> <p><b>perfect</b> 27:22</p> <p><b>performing</b> 25:8</p> <p><b>period</b> 45:19</p> <p><b>perishable</b> 48:5 52:6</p> <p><b>person</b> 46:14 46:15</p> <p><b>personal</b> 21:13</p> <p><b>personality</b> 46:14</p> <p><b>personnel</b> 10:13 46:12</p>	<p><b>perspective</b> 9:16 11:6 21:16 41:4 43:5 48:14,21 50:8</p> <p><b>ph</b> 48:8</p> <p><b>phase</b> 24:14</p> <p><b>phillips</b> 2:7</p> <p><b>phones</b> 23:4</p> <p><b>physical</b> 22:5</p> <p><b>picture</b> 49:17 49:19,20,21</p> <p><b>pictures</b> 44:6,7</p> <p><b>piece</b> 14:5 55:3</p> <p><b>pieces</b> 22:7</p> <p><b>pillar</b> 12:20</p> <p><b>pine</b> 2:11 3:6 11:19 12:7 17:9,13,22 18:10 19:4,21 20:11,19</p> <p><b>place</b> 14:19 15:13 51:3 53:17</p> <p><b>placeholder</b> 44:19</p> <p><b>plagiarism</b> 28:18</p> <p><b>plan</b> 6:5 29:16 46:18</p> <p><b>platform</b> 25:12</p> <p><b>platforms</b> 25:11 36:9</p> <p><b>player</b> 55:7</p> <p><b>please</b> 4:15 8:9 29:2 53:2</p> <p><b>pleasure</b> 21:1 31:1 43:2</p>	<p><b>plus</b> 20:6 58:21</p> <p><b>point</b> 10:3 14:10 24:22 25:9,18 26:2 40:15</p> <p><b>points</b> 12:9</p> <p><b>policies</b> 7:16 15:9 46:1</p> <p><b>policing</b> 24:2</p> <p><b>policy</b> 9:4 13:21 15:1 16:6 18:18</p> <p><b>politician</b> 43:15,16</p> <p><b>pondering</b> 36:5</p> <p><b>possibility</b> 17:3</p> <p><b>posted</b> 4:22 5:2 5:9</p> <p><b>potential</b> 24:2 33:7</p> <p><b>potentially</b> 24:1,3,6 48:10</p> <p><b>power</b> 29:11 57:16 59:10,11</p> <p><b>powerpoint</b> 32:10 49:16</p> <p><b>practices</b> 10:13 30:1 37:5 51:7</p> <p><b>predictable</b> 45:10 46:22</p> <p><b>predominantly</b> 31:20 32:15,19</p> <p><b>preferred</b> 24:8</p> <p><b>prepared</b> 62:3</p> <p><b>preparedness</b> 6:14</p> <p><b>present</b> 53:22 55:14</p>	<p><b>presentation</b> 52:9</p> <p><b>presentations</b> 32:10</p> <p><b>prevent</b> 53:9</p> <p><b>previous</b> 53:12</p> <p><b>previously</b> 31:18 42:17 43:7</p> <p><b>price</b> 26:14</p> <p><b>pricing</b> 21:6,8</p> <p><b>primary</b> 12:18</p> <p><b>prime</b> 13:14</p> <p><b>principles</b> 30:4</p> <p><b>printed</b> 26:12</p> <p><b>prior</b> 61:5</p> <p><b>priorities</b> 48:16 53:3</p> <p><b>prioritization</b> 45:4</p> <p><b>prioritized</b> 46:22</p> <p><b>prioritizing</b> 44:8</p> <p><b>priority</b> 39:15 50:16 54:22 55:4</p> <p><b>private</b> 6:15,20 9:13 41:3</p> <p><b>probably</b> 44:15 58:21</p> <p><b>problem</b> 34:18</p> <p><b>problems</b> 36:2 50:5</p> <p><b>procedural</b> 4:16 9:4</p> <p><b>proceeding</b> 62:4</p>
--	---	--	---

<p><b>proceedings</b> 61:3,5,6,9 62:6</p> <p><b>process</b> 9:4 10:18 12:13 15:5 16:1 37:6 37:8 40:2 46:1</p> <p><b>processes</b> 7:16 8:17 10:10,22 15:22</p> <p><b>procure</b> 44:3</p> <p><b>produce</b> 26:13</p> <p><b>product</b> 29:11 60:4</p> <p><b>production</b> 4:12</p> <p><b>products</b> 24:4 33:12</p> <p><b>professional</b> 47:6</p> <p><b>professionals</b> 25:2,16,19 44:11 47:8,12 47:17</p> <p><b>program</b> 22:10 26:14</p> <p><b>programming</b> 34:7 44:18</p> <p><b>programs</b> 43:22</p> <p><b>progress</b> 7:22</p> <p><b>proliferation</b> 13:13 15:2</p> <p><b>promote</b> 14:13 15:10 18:22</p> <p><b>promoted</b> 54:17</p> <p><b>promotion</b> 14:2 18:8</p>	<p><b>promotions</b> 16:16</p> <p><b>properly</b> 16:2</p> <p><b>protected</b> 35:15</p> <p><b>proven</b> 50:6</p> <p><b>provide</b> 5:4 6:3 6:8 16:11 29:22</p> <p><b>provisions</b> 35:20 41:16</p> <p><b>public</b> 4:9,15 5:4,18 6:7,17 6:20 35:18 41:4 52:20 53:4 55:11 61:18</p> <p><b>pulling</b> 27:18</p> <p><b>purchase</b> 22:2 23:11,15</p> <p><b>purpose</b> 29:14</p> <p><b>push</b> 15:4 18:19,20,20</p> <p><b>pushing</b> 14:7 18:20</p> <p><b>put</b> 15:12 27:13 44:12 48:4 59:14</p> <p><b>putting</b> 35:11</p> <p><b>python</b> 34:7 46:15</p>	<p><b>quantum</b> 54:21</p> <p><b>quarter</b> 18:18</p> <p><b>question</b> 16:5 16:13 18:11 21:18 37:11 40:20 42:7 48:22</p> <p><b>questioning</b> 16:8,9</p> <p><b>questions</b> 8:8 30:19</p> <p><b>quick</b> 37:11</p> <p><b>quickly</b> 9:12,17</p> <p><b>quo</b> 16:7,9 18:11</p> <p><b>quoting</b> 52:7</p>	<p>26:1 27:2 29:15 30:7 31:17 33:1 34:2,14 37:3,6 37:7,13 41:9 44:5 45:6 46:7 48:3,9,20 49:9 51:6 57:4,8,15 57:21</p> <p><b>reason</b> 9:2 57:7</p> <p><b>reasons</b> 13:2</p> <p><b>recalibrate</b> 47:19</p> <p><b>receive</b> 10:16 57:20</p> <p><b>received</b> 5:5,7 52:14 53:5</p> <p><b>recently</b> 31:4 34:12 56:4</p> <p><b>recognize</b> 45:13</p> <p><b>recommenda...</b> 16:14 58:7</p> <p><b>recommenda...</b> 6:9 7:6 30:8 46:21 52:20</p> <p><b>recommended</b> 13:22</p> <p><b>reconnaissance</b> 23:5</p> <p><b>record</b> 43:22 61:9 62:5</p> <p><b>recorded</b> 4:8 61:6</p> <p><b>recording</b> 61:8 62:4</p> <p><b>records</b> 44:1</p>
		<b>r</b>	
		<p><b>r</b> 2:1 4:1 12:15 46:15</p> <p><b>ranging</b> 10:14</p> <p><b>rapid</b> 14:1</p> <p><b>rather</b> 10:22 13:10 15:4 16:5</p> <p><b>raw</b> 38:21</p> <p><b>reacting</b> 44:20 44:20</p> <p><b>readiness</b> 36:7</p> <p><b>ready</b> 36:7</p> <p><b>real</b> 32:9 49:15 49:16 56:20</p> <p><b>reality</b> 7:19</p> <p><b>really</b> 8:18 9:16 17:19 20:17,21 21:20 22:4 23:13,22 24:11,14 25:3</p>	
	<b>q</b>		
	<p><b>qualified</b> 61:7</p> <p><b>quality</b> 26:6</p> <p><b>quantitative</b> 38:22</p>		



<p><b>recover</b> 33:17  <b>recovery</b> 40:2  <b>red</b> 13:19  <b>reduced</b> 61:7  <b>reducing</b> 26:16              45:3  <b>refactor</b> 40:1  <b>reflect</b> 22:1  <b>reflections</b>              55:15  <b>regard</b> 40:20  <b>regarding</b>              30:17  <b>regards</b> 37:5              55:16 58:3  <b>register</b> 4:22              5:3  <b>registered</b>              33:12  <b>regular</b> 39:11  <b>regularly</b> 13:15  <b>regulations</b>              7:17  <b>reid</b> 2:5  <b>rein</b> 20:5  <b>reinforcing</b>              12:11  <b>related</b> 24:11              61:11 62:7  <b>relative</b> 61:13              62:10  <b>rely</b> 32:10  <b>remarks</b> 4:16              58:16  <b>remote</b> 23:5  <b>removed</b> 15:19  <b>removing</b> 9:7              32:21</p>	<p><b>repair</b> 14:15,15              14:16  <b>repairs</b> 20:6  <b>repeat</b> 28:18  <b>repeatable</b>              17:7  <b>reported</b> 1:17  <b>reports</b> 6:4  <b>represent</b>              21:14  <b>request</b> 46:9  <b>required</b> 24:12  <b>requirement</b>              16:16 26:10,17              56:5,8,9,10,13              57:2  <b>requirements</b>              15:12 22:1              24:3,14,20              26:18 45:16              55:20,22 56:19              56:21 57:10  <b>requiring</b> 14:5  <b>research</b> 24:13              24:19 42:17              53:8 55:13  <b>reshape</b> 11:22  <b>resilient</b> 55:8  <b>resistance</b> 24:6  <b>resolve</b> 34:18  <b>resonate</b> 35:3  <b>resource</b> 45:10              48:13 51:8,18  <b>resourced</b>              46:22  <b>resources</b> 44:9  <b>resourcing</b>              45:3 51:21</p>	<p><b>respect</b> 40:17              60:4  <b>respond</b> 46:8  <b>responsibility</b>              22:5  <b>responsibly</b>              29:11  <b>rest</b> 27:6 35:18              36:22  <b>restricted</b>              16:11  <b>restrictions</b>              12:1  <b>restrictive</b>              13:12  <b>result</b> 12:21              44:20 45:3  <b>results</b> 14:11              26:5  <b>retain</b> 47:7              48:6  <b>retirement</b>              47:22  <b>review</b> 5:8              52:14  <b>revolving</b>              15:21  <b>right</b> 7:1 13:12              19:3 22:17              24:5 25:15              26:9 28:10              31:10 32:6              33:10 34:13,20              34:20 36:10              38:2 39:16,18              41:5,6,7,10,14              44:10,15,19,22              48:3 49:5,5,6</p>	<p>49:13,16,18,21              50:10 51:9,12  <b>rights</b> 43:14              44:1 50:4,22              51:2  <b>risk</b> 16:9  <b>risks</b> 25:2              54:14  <b>road</b> 7:5  <b>roadblocks</b>              7:17  <b>robotic</b> 26:9  <b>role</b> 24:17  <b>round</b> 6:6  <b>rules</b> 16:1  <b>run</b> 20:8 34:1              39:6  <b>russia</b> 22:21  <b>russia's</b> 7:1  <b>ryan</b> 2:8,12 3:7              3:8 8:6 19:8              21:2,5,9 27:2,7              28:15 29:1,2              30:22 36:21              37:1 52:11              53:17 58:20</p>
			<b>s</b>
			<p><b>s</b> 2:1 3:1 4:1  <b>sales</b> 53:21  <b>sasala</b> 2:13 3:9              31:2,3,6,10              37:20 40:18              43:19 49:12  <b>satellite</b> 23:4  <b>satisfied</b> 57:3  <b>saw</b> 14:18</p>

<p><b>saying</b> 16:5 39:14 41:12,22 42:1 <b>scale</b> 9:8 30:11 30:12 <b>scaling</b> 53:10 <b>scientist</b> 34:7 <b>scope</b> 27:9 <b>scrappy</b> 23:1 <b>scrutiny</b> 24:2 <b>seats</b> 51:9 <b>second</b> 7:22 45:12 <b>secret</b> 22:10 <b>secretary</b> 6:9 38:17 39:4,4 39:12,13 59:17 <b>secretary's</b> 54:22 55:4 <b>section</b> 13:12 24:9,10 <b>sector</b> 6:16 9:14 35:18 41:2,3,4 <b>sectors</b> 6:20 <b>secure</b> 10:11,13 <b>security</b> 10:10 10:11,18 28:8 57:10 <b>see</b> 9:18 10:4 13:14 15:7 18:9 21:16 26:6,11,15 30:16 37:4,16 39:2,9 40:3,16 45:1,14 46:20 49:15 51:6 59:21</p>	<p><b>seeing</b> 23:3 <b>seem</b> 30:18 <b>seems</b> 23:1 <b>seen</b> 16:11 <b>self</b> 8:17 <b>selling</b> 58:22 <b>senior</b> 6:9 34:1 35:2 38:10,11 39:7,10 49:13 50:16 <b>sense</b> 22:12 <b>sensitivity</b> 33:6 <b>sent</b> 23:7 47:17 <b>september</b> 23:9 <b>sergeant</b> 19:1 <b>serve</b> 6:11 <b>serves</b> 11:19 <b>service</b> 7:8 12:22 17:20,21 19:13 20:22 28:15 59:16 <b>services</b> 24:15 43:9 <b>session</b> 4:15 34:17 <b>set</b> 53:1 <b>sets</b> 33:11 <b>seventeen</b> 17:13 <b>several</b> 54:1 55:12 <b>share</b> 8:6 30:15 50:10 53:2,18 <b>shared</b> 5:10 6:7 57:22 <b>sharing</b> 25:8 25:12 26:2 43:13 49:3</p>	<p><b>short</b> 27:11 <b>shortage</b> 6:22 <b>show</b> 15:11 50:21 <b>showing</b> 17:2 <b>shyu</b> 59:17 <b>sick</b> 48:2 <b>side</b> 56:8 <b>sides</b> 57:14 <b>sideways</b> 42:6 <b>sign</b> 11:4 <b>signature</b> 61:16 62:14 <b>significant</b> 5:1 <b>silence</b> 11:7 <b>silos</b> 50:1 <b>simple</b> 40:19 <b>simplest</b> 42:6 <b>simply</b> 14:21 33:2 <b>single</b> 12:12 34:3 <b>sir</b> 11:13 17:13 17:22 18:3 20:11,18,20 28:21 31:9 49:10 52:17 60:7 <b>sits</b> 20:8 <b>situation</b> 33:15 <b>skills</b> 16:19 32:2 35:10 47:20 48:5 52:6 61:10 62:6 <b>slow</b> 8:18 13:21 <b>small</b> 9:10 28:7 47:15 48:9</p>	<p>58:8 <b>smaller</b> 45:12 <b>smart</b> 25:2 <b>sniffing</b> 26:9 <b>snowflake</b> 35:17 <b>soldier</b> 36:18 <b>soldiers</b> 36:8 36:11 <b>sole</b> 13:2 20:1 <b>solid</b> 32:11 <b>solution</b> 9:13 26:10 <b>solutions</b> 13:7 17:6 19:17 <b>solve</b> 36:2 <b>solved</b> 24:4 <b>somebody</b> 17:17 <b>soon</b> 26:4 <b>sorry</b> 23:6 <b>sort</b> 27:10 33:4 35:4 45:17 56:22 <b>sounds</b> 9:10 <b>source</b> 13:3 20:1 <b>space</b> 59:6 <b>speak</b> 31:15 39:11 <b>speaker</b> 2:11 2:12,13,14 20:14 21:2 <b>speakers</b> 11:5 11:12,14 30:14 30:20 54:4,12 58:15</p>
---	---	---	---

<p><b>special</b> 42:18 47:10</p> <p><b>specialty</b> 35:10</p> <p><b>specific</b> 23:12</p> <p><b>specifically</b> 24:10,13 25:3</p> <p><b>specify</b> 56:20</p> <p><b>spectrum</b> 51:21</p> <p><b>speed</b> 6:17 36:12 44:16</p> <p><b>speeds</b> 59:3</p> <p><b>spend</b> 56:2</p> <p><b>spent</b> 10:1 41:2</p> <p><b>spot</b> 27:20 28:17 59:12</p> <p><b>squarely</b> 44:9</p> <p><b>staff</b> 39:7 51:15</p> <p><b>standard</b> 13:10</p> <p><b>standardize</b> 51:5,7</p> <p><b>standardized</b> 47:1</p> <p><b>standards</b> 49:6</p> <p><b>standing</b> 39:14 47:10</p> <p><b>start</b> 9:20 32:21 33:1 37:13 38:6 41:9</p> <p><b>started</b> 32:19 34:22 36:5</p> <p><b>startup</b> 22:16</p> <p><b>startups</b> 48:11</p> <p><b>state</b> 29:19 61:19</p> <p><b>stated</b> 18:16</p>	<p><b>stations</b> 15:20</p> <p><b>status</b> 6:3 16:7 16:9 18:11</p> <p><b>statute</b> 9:2</p> <p><b>stay</b> 16:17 48:4 48:8</p> <p><b>stemmed</b> 13:2</p> <p><b>steve</b> 15:14</p> <p><b>stop</b> 9:3</p> <p><b>stoplight</b> 38:20</p> <p><b>storage</b> 46:18</p> <p><b>stories</b> 23:16 25:13 26:2</p> <p><b>story</b> 27:16,22</p> <p><b>storytelling</b> 25:10</p> <p><b>strapped</b> 23:7</p> <p><b>strategic</b> 39:14</p> <p><b>strategies</b> 30:10</p> <p><b>streamline</b> 14:11</p> <p><b>streamlining</b> 8:1 14:1</p> <p><b>strength</b> 6:13 28:5</p> <p><b>strengthen</b> 29:15</p> <p><b>structure</b> 25:6</p> <p><b>structured</b> 27:3</p> <p><b>struggle</b> 6:17 43:18 44:8</p> <p><b>struggling</b> 43:20 45:1 51:15</p> <p><b>studies</b> 5:12 6:4,6 52:9,11</p>	<p>52:14,16,19 53:13 58:14</p> <p><b>study</b> 7:19,22 8:5,12,21 9:18 11:4 29:3,6,14 30:17</p> <p><b>stuff</b> 17:8 56:4</p> <p><b>sue</b> 2:4 3:5 8:5 8:6,9 9:22 27:5 52:11 57:17</p> <p><b>suffering</b> 12:22</p> <p><b>sunshine</b> 4:19</p> <p><b>super</b> 4:6</p> <p><b>supply</b> 11:22 13:3 20:1</p> <p><b>support</b> 6:12 11:22 26:7 29:9</p> <p><b>supporting</b> 4:12 45:2</p> <p><b>supports</b> 53:8</p> <p><b>sure</b> 10:20 16:20 27:15 40:14</p> <p><b>swann</b> 2:8 3:8 8:6 19:10,11 20:10 29:4 37:2 40:4 48:19 52:1</p> <p><b>sweet</b> 27:20</p> <p><b>sworn</b> 61:5</p> <p><b>system</b> 13:9,10 22:3,7,12 33:5 33:6 56:1</p> <p><b>systemic</b> 17:6</p> <p><b>systems</b> 10:19 10:19 14:14 19:19 22:4,6</p>	<p>33:11,13 44:1 44:11 47:10 49:8</p> <p style="text-align: center;"><b>t</b></p> <p><b>t</b> 3:1,1</p> <p><b>tackle</b> 6:6 8:22 37:18 53:9</p> <p><b>tackling</b> 8:21</p> <p><b>tactical</b> 43:5 44:5 48:21</p> <p><b>take</b> 7:7 11:3,9 11:9 18:17 25:2 29:20 42:14 58:1</p> <p><b>takeaway</b> 45:11</p> <p><b>taken</b> 5:11 61:3 61:12 62:9</p> <p><b>takes</b> 12:14 26:3</p> <p><b>talent</b> 15:16 51:9,18 52:6,7</p> <p><b>talk</b> 21:13,15 23:22 26:1 29:7</p> <p><b>talking</b> 40:12 58:20</p> <p><b>tangible</b> 9:11</p> <p><b>tape</b> 13:19</p> <p><b>taped</b> 23:4</p> <p><b>tax</b> 12:21</p> <p><b>taxes</b> 50:12</p> <p><b>taxonomy</b> 50:22</p> <p><b>team</b> 53:8 55:13</p>
---	--	---	--

<b>teammates</b> 9:18 <b>tech</b> 7:21 22:17 <b>technical</b> 14:6 14:9,13 16:12 16:17 19:14,15 20:3 <b>technically</b> 45:21 <b>technologies</b> 44:17 54:17 57:9 58:12 <b>technology</b> 6:16 7:13 8:4 15:2,4 19:16 21:22 22:8,14 22:15 25:4 29:12 30:4 37:6 44:10 45:15 46:10,12 47:5 50:5 <b>tedxdau</b> 54:1 54:20 <b>tell</b> 8:13 <b>tellers</b> 24:7 <b>tells</b> 25:16 <b>term</b> 21:20 <b>terms</b> 22:5 33:21 55:22 <b>testifying</b> 61:5 <b>thank</b> 4:3,11 5:21 8:11 12:3 12:4,6,7,7 17:9 17:20,21,22 18:3 19:13 20:10,12,15,16 20:19,21 21:10 21:11,11 27:1	28:11,15,19,20 29:4 31:6,10 31:11,11 36:16 37:2 42:9,11 42:20,22 43:1 48:18,19,19 52:1,3,4,10 57:17 58:13,17 59:14,16,17 60:3,6,7,8,8,11 <b>thanks</b> 5:17 10:8 17:8 18:7 19:12 40:4 52:18 59:21 <b>theater</b> 43:11 <b>theodotou</b> 1:5 2:10 3:3 4:2,3 11:13 18:3 19:7 20:12,17 20:20 27:1 28:12 30:21 36:16 40:7 42:9 52:3 53:6 57:17 60:7 <b>thin</b> 45:7 <b>thing</b> 10:6 38:8 42:6 49:11 52:22 57:16 <b>things</b> 10:3 15:16 16:5 17:16 23:3,5 23:22 25:14 26:4,6,11 27:10 28:1,2,3 29:20 30:3 34:22 35:6,17 37:19,22 40:19 41:21 42:4	46:22 51:20 52:5 56:21 58:19 59:3 <b>think</b> 9:6,11 10:17 17:1,4 18:10 19:7,8 21:18 22:3,19 23:16 24:16 25:5,10,10 26:6,11,15 27:9 28:1,16 31:13 33:15 37:14 38:9 40:19 42:6 48:22 49:3,9 51:5 52:22 54:4 56:10,18 57:4,15 <b>thinking</b> 42:4 55:2 <b>thinks</b> 28:17 <b>third</b> 25:9 30:7 <b>thomas</b> 2:13 3:9 31:2 <b>thornberry</b> 2:9 <b>thought</b> 27:22 36:5 55:20 56:16,19 57:2 <b>thoughts</b> 20:13 30:15 <b>thousandths</b> 42:5 <b>thread</b> 51:1 <b>threads</b> 7:3 <b>threat</b> 18:8,10 45:4 48:15 <b>threats</b> 45:1 54:7	<b>three</b> 12:14 23:22 <b>tier</b> 35:4 <b>tiers</b> 35:2 <b>time</b> 8:19 10:1 12:4 17:1 18:4 20:18,19,22 26:22 29:7 31:7,11,12,17 31:22 32:20 37:17 38:15 42:21 46:3 48:2 49:6 50:12 56:2 58:11 59:12 <b>times</b> 13:1 21:20 39:22 <b>timothy</b> 1:17 61:2,17 <b>tipping</b> 25:18 <b>today</b> 4:6,12 6:2 7:20 11:14 12:4,10 21:20 22:14 31:7 39:3 42:21 43:2 54:4,11 55:20 58:15 59:19 60:9 <b>today's</b> 4:8,21 <b>together</b> 39:10 46:21 47:2 50:2 53:18 55:9 <b>tom</b> 36:17 37:3 40:5,9 42:10 42:12 <b>tomorrow</b> 19:1
---	--	--	--

<p><b>ton</b> 56:10  <b>took</b> 12:19  <b>tools</b> 7:9 13:8              44:6  <b>top</b> 22:10 54:15              56:13  <b>topic</b> 54:10,21              55:6,8 56:18              57:4,5  <b>topics</b> 6:5              31:16 53:1              54:1,8 55:15  <b>total</b> 33:18              34:15  <b>touched</b> 54:5,5  <b>tough</b> 16:13  <b>towards</b> 45:4  <b>toy</b> 23:6,6  <b>trade</b> 50:12  <b>traditional</b>              26:14 41:8  <b>traditionals</b>              58:8  <b>train</b> 36:8,9  <b>training</b> 13:15              13:17 15:13              35:1,2,5,9,12              36:18 38:12  <b>transcriber</b>              62:1  <b>transcript</b> 62:3              62:5  <b>transcriptionist</b>              61:8  <b>transistors</b>              59:2  <b>transport</b> 50:5              50:9 51:20</p>	<p><b>treasa</b> 62:2,15  <b>true</b> 53:19 61:9              62:5  <b>truly</b> 14:14              15:3 16:16,19  <b>trusting</b> 49:13              49:14  <b>trusty</b> 32:10  <b>try</b> 7:8 36:2  <b>trying</b> 27:21              33:16 37:13              41:9 49:20  <b>tuesday</b> 1:8  <b>tuned</b> 10:21  <b>turn</b> 5:13 9:17              27:5 30:16              36:15,20 52:15              56:22 57:8              58:15  <b>turns</b> 41:18  <b>two</b> 6:1,4 12:9              24:22 27:10              30:14,20 37:19              39:3 45:20              46:3 47:18              52:5,9 57:14              58:14  <b>type</b> 23:2,19  <b>typewriting</b>              61:7  <b>typically</b> 15:15</p>	<p><b>unable</b> 23:14              44:5  <b>under</b> 4:18              46:8 59:17  <b>understand</b>              11:15 16:4              18:12 37:7  <b>understanding</b>              21:21 34:10              35:12,13  <b>unfortunately</b>              41:10 43:16  <b>unicorn</b> 35:16  <b>uniform</b> 6:21  <b>uniformed</b>              47:11  <b>unique</b> 26:17              26:18 45:16  <b>uniquely</b> 48:10  <b>universities</b>              58:4,9  <b>university</b>              23:12 26:12  <b>unlock</b> 29:21              30:5  <b>unmanned</b>              47:10  <b>unpack</b> 49:8  <b>upcoming</b> 5:12              54:6  <b>update</b> 8:7,12              29:5  <b>updates</b> 52:11  <b>upper</b> 16:15  <b>upscaling</b>              33:20  <b>upskill</b> 47:19</p>	<p><b>urgent</b> 6:22              37:17  <b>use</b> 8:3 9:9              10:12 21:19              30:11,12 32:4              36:10 38:9,10              38:13 39:15              44:5 60:3  <b>used</b> 37:14              38:17 51:1              59:1,8  <b>using</b> 24:4,22              32:9 34:4,8              36:12 44:11              49:13  <b>usmc</b> 2:11  <b>usually</b> 18:11  <b>utilizes</b> 29:10</p>
			<b>v</b>
			<p><b>validated</b> 54:11  <b>value</b> 29:22              30:6  <b>various</b> 13:2  <b>vast</b> 8:2  <b>vendor</b> 44:2  <b>verry</b> 43:7  <b>versatile</b> 36:18  <b>versus</b> 22:20  <b>vertical</b> 17:2  <b>vet</b> 12:14  <b>video</b> 26:7  <b>view</b> 4:9 45:8  <b>views</b> 21:13  <b>visualization</b>              49:15  <b>voice</b> 18:14,20</p>

<b>w</b>	57:22	<b>world</b> 7:10
<b>wait</b> 11:5	<b>weapon</b> 22:4,6	21:17 22:6,13
<b>waiting</b> 15:4	<b>weapons</b> 36:10	26:20 33:3
<b>want</b> 9:19 11:2	36:19	36:6 49:2 56:5
16:8 23:22	<b>weave</b> 50:2	56:6 59:2
30:16 41:14,21	<b>web</b> 54:20	<b>worry</b> 56:12
48:12 49:15	<b>website</b> 5:9	<b>worth</b> 24:17
52:6,7 60:2	<b>weird</b> 56:22	<b>writes</b> 46:15,15
<b>wanted</b> 9:9	<b>welcome</b> 4:6	<b>writing</b> 41:1
52:15 55:13	5:18 11:14,18	<b>wrote</b> 28:1
57:20	31:1 42:20	<b>x</b>
<b>war</b> 7:1,2 12:15	<b>willing</b> 39:19	<b>x</b> 33:5
14:8 23:1,2,17	<b>willingness</b>	<b>y</b>
29:10 54:5,6	32:3	<b>yeah</b> 9:22 10:7
<b>warfare</b> 55:3	<b>winter</b> 59:21	19:11 27:7
<b>warrant</b> 11:19	<b>wisdom</b> 17:15	29:4 37:20
35:8	<b>wish</b> 49:10	40:9,18
<b>warships</b> 23:8	<b>witness</b> 61:4	<b>year</b> 23:9 39:3
<b>watch</b> 39:6	<b>women</b> 6:21	44:12 47:18
<b>watching</b> 5:20	<b>wonder</b> 23:17	51:14 58:5
<b>way</b> 9:6 14:9	56:1	<b>years</b> 11:1
19:5 26:1 27:3	<b>wonderful</b> 33:3	12:14,19 17:13
28:9 31:22	<b>words</b> 27:13	17:15 18:18
34:4 40:17	<b>work</b> 38:4 47:2	21:5 31:22
41:1,21 44:18	52:19 53:12	34:17 41:3
46:6 47:2	59:18	44:13 45:20
48:16 54:3	<b>worked</b> 14:3	46:3 47:9
56:22	51:14	<b>z</b>
<b>ways</b> 6:13,20	<b>worker</b> 35:4	<b>zero</b> 41:7 42:4
24:8 25:4	<b>workers</b> 32:8	<b>zeros</b> 50:7
29:17 57:1	<b>workforce</b>	
59:4,8,8	33:20 34:15,19	
<b>we've</b> 6:7 10:1	35:1	
10:22 17:16	<b>working</b> 11:21	
21:18 22:6	13:6,9 35:1,7	
50:6 53:5,7,12	52:10	
53:14,20 54:1	<b>works</b> 46:7	