

DEFENSE INNOVATION BOARD
Open Meeting Minutes
21 March, 2019
9:30 AM to 12:01 PM
National Defense University, Fort McNair, Washington, D.C.

The Defense Innovation Board (DIB) is a federal advisory committee within the Department of Defense (DoD) operating pursuant to the Federal Advisory Committee Act of 1972, the Government in Sunshine Act of 1976, and other appropriate federal regulations. The DIB meets quarterly and held its tenth public session on March 21, 2019 from 9:30 AM to 12:01 PM in the auditorium of the National Defense University, Fort McNair, Washington, D.C.

DIB Members (voting) (10)

Dr. Eric Schmidt (Chair)
Dr. Richard Murray
Dr. J. Michael McQuade
Mr. Milo Medin
Dr. Eric Lander
Mr. Mark Sirangelo
Dr. Mary Cummings
Dr. Neil DeGrass Tyson
Mr. Walter Isaacson (Telephonic)
Ms. Marne Levine (Telephonic)

DIB Staff Support (non-voting) (12)

Mr. Joshua Marcuse, Executive Director
Mr. Michael Gable, Designated Federal Officer
Ms. Janet Boehnlein
Captain Christopher Brunett, U.S. Navy
Mr. Tyler Marcotte
Ms. Courtney Greenley
Mr. Aaron Schumacher
Major Wess Smith, U.S. Air Force
Ms. Courtney Barno
Ms. Devon Hardy
Ms. Sandy O'Dea
Mr. Jeff Boleng

Guest Presenters (3)

Dr. Michael Porter, Undersecretary of Defense for Research and Engineering (DUSD(R&E))
Dr. Lisa Porter, Deputy Undersecretary of Defense for Research and Engineering (DUSD(R&E))
Dr. Ellen Lord, Undersecretary of Defense for Acquisition and Sustainment (USD A&S)

Public Commenters (12)

Ms. Gwyneth Woolwine
Mr. Halimah Najieb-Locke
Mr. Marco di Cupua
Mr. Clay McGuire
Mr. Igor Alvarado
Mr. Robert Karlen
Mr. Simon Poutille
Ms. Mercedes Fitchett
Ms. Victoria Cuff
Ms. Rachael Hoff
Mr. Bobby Cunningham

Public Session Attendees (310)

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PUBLIC MEETING SESSION

During the meeting, the DIB will receive a presentation from the Under Secretary of Defense for Research and Engineering (USD(R&E)). The Science and Technology subcommittee will discuss their work on principles for the ethical use of Artificial Intelligence and their study on the viability of 5G capability for DoD. The Workforce Behavior and Culture subcommittee will discuss career paths and their work plan for calendar year 2019. The DIB will also receive a progress update on the Software Acquisition and Practices (SWAP) study directed in the National Defense Authorization Act for Fiscal Year 2018 and deliberate on the working draft of the study. Additionally, Mr. Joshua Marcuse, on behalf of DoD, will brief the DIB on DoD's latest implementation activities related to DIB recommendations. Members of the public will have an opportunity to provide oral comments to the DIB regarding its deliberations and potential recommendations.

Opening Remarks

- Administration & Compliance – Designated Federal Officer
- Introduction & Agenda Review – Executive Director
- Opening Remarks – Board Chair

Presentation from Under Secretary of Defense for Research and Engineering, the Honorable Michael D. Griffin

Science and Technology subcommittee update

Presentation from Under Secretary of Defense for Acquisition and Sustainment, the Honorable Ellen M. Lord

Presentation and deliberation on the working draft of the Software Acquisition and Practices study

Presentation on Implementation by the Department - Mr. Joshua Marcuse, Office of the USD(R&E)

PUBLIC COMMENTS

Ms. Gwyneth Woolwine: So I'm with the staff of the Senate Armed Services Committee. The Senate Armed Services Committee version of the National Defense Authorization was the version of the bill to originally carry the study that directed the DIB to look at software. And I wanted to say that we are very excited to continue to tackle these complex issues with the board and with the Department and we applaud the candid nature of the discussion, the professionalism of the members of staff and engaging what have been often difficult and the emotional challenges and barriers of the Department and industry face in trying to move forward together. So I just wanted to say bravo.

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Mr. Bobby Cunningham: Hi, there. I'm Bobby Cunningham. I'm a federal advisor with Omnia. And just want to thank you all for the time, your hard work on these really important topics, ethical use of artificial intelligence as well as the software acquisition process. And I was particularly pleased by Undersecretary Lord's comments about, you know, the sort of government furnished equipment and these hardened containers where industry can kind of, you know, come in and work with the government and really appreciate that and looking forward to reading a final report. And so a little bit more on Omnia and kind of, you know, as we enter an increasingly digital world, explosion of knowledge, information, and also misinformation. You know, I think there are a set of new challenges that will arise and, you know, have already started to arise. And I think the work that you all are doing on this really kind of gets to the core of that. One of these challenge areas is data processing and ethical curation of that data. And Omnia is a semantic search platform, sort of document as a query, also it's a decentralized knowledge curation platform interconnecting document repositories of scale. We've also launched with a handful of other companies what we're calling the wisdom tech society to raise consciousness, increase collective intelligence, develop industry standards and expose misinformation and to kind of take a mantra familiar probably to a couple of you, do no evil. I'd encourage the board and also the Pentagon to consider what Omnia and the wisdom tech society can offer. We're based in Menlo Park so we're also planning to attend the April and June meetings and I'd be happy to follow up with anyone on the board or in this room after. Thank you again.

Mr. Halimah Najieb-Locke: Thank you. My name is Halimah Locke and I am a staffer on the House Armed Service Committee for Chairman Smith and I just again want to really thank the DIB SWAP for this really, really thoughtful report. I think I can't iterate enough how just important this is and how timely kindly this is. It's responsive to our needs and I want to specifically shout out the thoughtfulness around the crafting of the 805 recommendation and how that is actually responsive to congressional intent that was present previously and done by my colleagues and how that's going to actually streamline and kind of meld what we're trying to do as far as bringing the industrial base to the fore and building the innovation base. And so I thank you for that thoughtfulness. I also want to really say I appreciate the awareness of broader acquisition efforts that are present across the government and specific to the DoD and your shouting out of the program management as evident in your PEO digital recommendation downstream as well as your comments around intellectual property and how that is dealt with. I look forward to seeing how this is integrated both at the Department level and in our efforts and on Congress to really listen to the report and take from it what we can to actually give the tools to those that are using this. And I again want to thank you for the vignettes because that adds texture when we're trying to explain how timely this is, how important this is and how this actually creates a better war fighter. So thank you so much.

Mr. Marco di Cupua: Just a comment. I -- maybe I missed this. I have not read the report. But to what degree the report reflects the contemporary environment of apps as developed to actually -- to -- for apps that reside in flexible platforms? The iPhone is really remarkable as an instrument to gather data, to actually -- okay. To gather accelerometer data. It does absolute marvelous. To what degree your report actually reflects ability to embed -- to develop apps in an apps ecosystem? That's the first question. The first issue. And the second issue is regard to the remarks about bandwidth. Bandwidth is not only important in terms of the bandwidth that is available, but also to actually to deliver bandwidth to the battlefield, developing microwave

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bandwidth to -- it doesn't -- bandwidth is not really universal at very low frequencies. Thank you.

Mr. Clay McGuire: Good morning, everyone. My name is Clay McGuire. I'm retired from the Armed Services recently. My last tour was at JIDO which I know you guys have interacted with and my statement is about personnel and career management. Specifically the DIB had identified innovation centers for excellence, and they already exist in the DoD. We've been talking about them today, DDS, we mentioned JIDO, Kessel Run and the board recommended improving communication between these organizations and DoD to help educate the rest of the DoD workforce. My comment is DoD grooms its best and brightest personnel. And I think that creating a pathway for DoD's best and brightest personnel, whether it be leaders or the software personnel that we know are so important, we talked about today, but also PM's, contractors, by pushing their career path through these organizations for a short time, that might help create a line of communication that we're talking about as people move through the organizations and out into the rest of the DoD, they can carry with them those lessons and hopefully push innovation forward because I think communication can be best -- is best experienced through personal interaction and that's a good way to share these experiences.

Mr. Igor Alvarado Thank you. Igor Alvarado from National Instruments in Houston, Texas. I just wanted to thank you for the report. I haven't seen it, but from the recommendations, I think it's excellent work. But I do see that there are a few things missing that might be something that could be added in the future. For example, there wasn't too much about operating systems, drivers, math kernels, all the hidden things that we forget about. You might have the rest of it you might think of, but you don't have the platform to run it, you don't have anything, right. So that's one thing I didn't see. The other one was -- or is actually that we are moving into symbiosis between hardware and software. I did see the comment that software is not hardware which was obviously a message there, but I think what is happening is totally the opposite. Hardware is becoming software and software is becoming hardware. So I will say -- I will recommend also that in the future you add a tracking which you also include new hardware that actually does computation directly like metamorphic and spiking neural networks and things like that. I know in computing that that way is actually working, right. And so I think that doesn't -- I didn't see there. Also, I would recommend also to add that. And finally, you know, think more about when your software define hardware, but also reconfigure hardware, right, that can actually adjust to the computation in real time that you are trying to perform. So those are things that I see critical for DoD in the future and I didn't see those in the report although, like I said, I really happy for -- to see all the recommendations made.

Mr. Robert Karlen: I'm an analyst with the Boone Group. I just want to point out the current contradictive statements from Dr. Porter in the recent initiative with Air Force pitch day on the speed of contracting and I think that will be an interesting point of discussion moving forward and it's something that I'll keep my eye out for.

Mr. Simon Poutille: Thank you very much for having me here. Lieutenant Colonel Simon Poutille from Canada. Just a small comment. With the changing nature from the hardware focus to the software focus, changing in nature a bit of the workforce towards the kind of hardware working to a software working workforce, but also with the changes in the appropriation of the

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younger generation wanting to change jobs a few more times within their careers, so there is discussion about like moving within the DoD which is fantastic, but what about moving in and out of DoD. What about moving in and out of America and including Canada? So just saying if it's a challenge, if there's going to be incentive, different kind of workforce related management that's going to be involved with this because we're looking at the same thing in Canada and, you know, it's not about the number of push-ups you do. It's about your capacity. So that was just a comment/question for you.

Ms. Mercedes Fitchett: I'm a civilian with the Defense Department. I'm actually currently a student at the Eisenhower School here at National Defense University. And I was actually thrilled that the DIB was going to be here because I consider this a once-in-a-lifetime opportunity and I want to congratulate and call out the professors who brought their classes and students here. For any future DIB meetings, I think it's fantastic to leverage the DoD infrastructure, but I think that also there was an opportunity missed with regards to not getting NDU leadership to commit the organizations here to facilitate the opportunity for the students to make it possible to be here. The courses that we had here this morning at Eisenhower School were acquisition and innovation and industry analytics and I think both of those courses could certainly have been accommodated to allow for the whole auditorium to have been filled because again, it's the people adoption, it's the leadership buy-in, it's all levels. So in the future, I would love to see a stronger commitment from the DoD organizations to welcome and fully support the DIB and thank you for your hard work.

Ms. Victoria Cuff: Good morning. My name is Tori Cuff and I was previously the chief of acquisitions for the entire Kessel Run effort for the Air Force. And so I full-heartedly believe and echo the statements and am very happy to see all the comments of internal talent. I think some of the most innovative people are the undersold heroes of acquisitions who are reading through the 5,000-plus pages of documents that guide them and it's not just one. You have the financial management, the contracting, the 5000 series, the list goes on. But I do want to say that as much as we have champions, we have to protect those people and my experience at Kessel Run as in other offices, it's the hardest thing for the DoD to do today. We cannot accelerate careers of people that are the most promising. And we can do more for external hires than we can for internal. It's something we have to change because you have a whole slew of internal talent and definitely incoming talent that really want to serve and serve in a civilian capacity or in uniform that want to keep pushing this forward and my fundamental belief is that software is going to be the differentiator for all of us. So if we can't figure out software, we're nowhere in the next conflict or even in today's. So very happy to see how much culture in internal hiring as well as we still need to bring in externals as this board demonstrates a fine talent for insights for our community. Thank you.

Ms. Rachael Hoff: My name is Rachel Hoff. I'm the policy director at the Ronald Reagan Institute which probably most famous in a crowd like this for our annual Reagan National Defense Forum out in Simi Valley at the Reagan Library. I just wanted to thank the board for your work, particularly on the software acquisition piece. I'm looking forward to certainly the report on AI and ethical frameworks. We at the Ronald Reagan Institute are starting to build out some policy work in between our annual defense forums and just sort of for general awareness, we'll be joining the proliferation of task forces and boards. We're launching this year

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a task force focusing on national security, technology and workforce issues. And so the work that you have done very much informs and provides a solid basis for what we're doing which broadly is kind of scoping out beyond the traditional industrial base, how we think about this concept of a national security innovation base. We're co-chaired -- we have great bi-partisan co-chairs with former Undersecretary Bob Work and former Senator Jim Talent and a dozen commissioners that are going to help think through those issues. So from the ethical frameworks to the software side to the acquisition, innovation, just wanted to say thanks for your work and we look forward to this fall in November putting out a report that hopefully piques some interest in this room as well. Thanks.

Closing Remarks – Board Chair & Designated Federal Officer

Dr. Schmidt made closing comments and Mr. Marcuse concluded the meeting.

END OF PUBLIC SESSION

ADJOURNMENT

Mr. Marcuse, with the concurrence of the DFO, adjourned the DIB's March 21, 2019 public meeting session at 12:01 PM.

I hereby certify, to the best of my knowledge, the foregoing minutes are accurate and complete.



Eric Schmidt, Ph.D.
Chairman, Defense Innovation Board

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