

Department of Homeland Security (DHS)
Science and Technology Directorate (S&T)
Homeland Security Science and Technology Advisory Committee (HSSTAC)

June 21- 22, 2016
Committee Meeting
Location: 1125 15th St, NW, Suite 500, Washington, D.C. 20005
Washington, D.C. 20005
Minutes

Summary: About 60 people attended the meeting (please see list below). A recording of the meeting sessions can be found at:

June 21 – morning: <https://share.dhs.gov/p8t923vy2qg>
June 21 – afternoon: <https://share.dhs.gov/p1pofa3oewe>
June 22 – morning: <https://share.dhs.gov/p680xkqja83>
June 22 – afternoon: <https://share.dhs.gov/p7csfuhdwur>

<https://www.dhs.gov/sites/default/files/publications/HSSTAC%20Meeting%20Minutes%20June%2021-22%202016.pdf> (retrieved 25 September 2016)

Day One (Tuesday, June 21st):

1. CONVENE AND OPENING

HSSTAC Designated Federal Officer, Michel Kareis, convened the meeting at 9:00 a.m. Kareis welcomed the committee members back to the session. She went over the agenda and stated that this was an open Federal Advisory Committee meeting with no discussions on classified information. She informed the participants that the session was being recorded. She then asked the committee members to briefly introduce themselves.

2. HSSTAC DELIVERABLES AND SUBCOMMITTEES UPDATE

- Dr. Jim Hendler presented information on the whitepaper covering Interdisciplinary Centers of Excellence on behalf of the group and asked the committee for feedback.
- General Raduege provided an outbrief on the Social Media subcommittee to the members summarizing its establishment. He stated that General Frank Taylor wanted to establish the subcommittee after the San Bernadino shootings. Members of the subcommittee were asked to look at practices and tools for data analytics and asked to prepare a whitepaper with an evaluation of the capabilities.
- Mr. Keith Bryant followed by providing the background on the Virtual Social Media Subcommittee. He stated that the subcommittee members were asked to provide feedback on how law enforcement can better use social media to help man made or natural disasters.
- Dr. Ted Willke provided an outbrief on the Commercialization Subcommittee focusing on how to best move technology to the market through a culture of commercialization in order to create more collaboration between DHS S&T and industry.
- Dr. Vincent Chan announced the establishment of the Internet of Things Smart Cities Subcommittee. Members will be asked to look at how the new architecture of security can help with resiliency.

- Dr. Eric Haseltine concluded by giving a presentation on, “Accidents by Design”, which focused on bringing ideas into existence and how we imagine what we don’t know.

3. THE INNOVATION ECOSYSTEM: THE FUTURE OF INNOVATION at NBAF

Kareis introduced Mr. Jamie Johnson, Acting Director, Research and Development Partnership. Johnson led a discussion on the National Biological Agricultural Facility (NBAF) and how to enhance resilience in order to prevent future threats. He explained that the new facility will be based on a hybrid model, run like a consortium with government, industry, and academia. He then asked for members thoughts on how the new facility in Manhattan, Kansas could be fully operational by 2018 after the current site at Plum Island is vacated. Johnson then invited comments from the committee members.

Some feedback from the members included:

Why is DHS leading (as opposed to FDA, NIH, CDC)?

Johnson responded: Protection of food supply and the agro-economy is a homeland security issue.

Is there outside funding or conferences to bring all of the players together?

Johnson responded: DHS and Kansas State University work ‘in-kind’ together and mutually benefit each other.

How is the relationship management group selected and where is it headed?

Johnson responded: The office needs to grow, hold Industry day, and have USDA contribute

What is the plan for Plum Island?

Johnson responded: To shut it down when NBAF comes up.

4. S&T INNOVATION AND PRIVATE SECTOR OUTREACH

Kathleen Kenyon, Private Public Partnerships, discussed the challenges that her division has “What are the best practices for a commercial investment philosophy including metrics that measure the Return on Investment?”, “What are the best practices in creating a standard for engagement with Innovation Hub engagement?” and “How can we help communities striving to become hubs for innovation?” She is focusing on techniques to harness the commercial sector to bridge the current technology from the government into the private sector.

Some of the feedback was to look at first responders, need for composable architecture integration, crowd-sourcing and creating incentives in order to orchestrate ecosystem. Committee members also suggested creating an infrastructure map, including the impact and integration.

5. S&T: INNOVATION AND PRIVATE SECTOR OUTREACH: SILICON VALLEY PRESENCE

Melissa Ho, Managing Director, Silicon Valley Office, started her presentation by providing some background information on the Silicon Valley Presence. She asked the committee for

thoughts on, “How to create a National model for innovation rather than regional models?” According to Ho, The current process of decision making generally goes through four distinct phases: 1. Proof of concept demo 2. Demonstration of a pilot-ready prototype 3. Pilot test the prototype 4. Test in various operational scenarios. Each phase will last 3-6 months with \$50k-\$200k in tranches (up to a total of 24 months and \$800k). Innovation activities and looking in other areas were the main recommendations.

Questions from the members included:

What is the difference between this and an InQtel model? Ms. Ho explained that the Silicon Valley Innovation Program works with InQtel but they are a larger organization with more money. SVIP has a more broad view. SVIP also works with DIUX leveraging a sharing system.

Are you providing Market data?

Market data is provided through our IPT process, events for DHS components talking about their markets.

Is there a value to being in Silicon Valley or a virtual environment?

Continuous contact and commitment to the area shows that we are serious and can scale later, nothing can replace face time and Silicon Valley allows you to meet the network and get instant information. Other projects have been started in Austin, Boston, Chicago, Charlotte, and Dallas. These are accelerator programs so we are present all over geographically.

Why is the funding flat? Has anyone questioned it? Is there carry over?

There is a fixed price contract, no carry over. The range is flat to pass specific funding levels (see slides for list of prices)

Suggestions and comments:

- Track the impact of the funding from investors to see the spillover effect, testimonials, geographic data, etc.
- Use the success as a marketing and PR opportunity for the government. The process moved so quickly, hard to do even in the private sector.
- Use a hybrid approach for example, the Center of Excellence on social media where people can test tools that can be implemented. If they are hungry they will come to you
- Scaling and Hybrid – 1.) Need a roadmap for clarity on technology 2.) Pull or push mechanism, should there be a presence, small scale versus large scale 3.) Tech ambassador, get S&T trained to be your sensing network as part of the job to get exposure.
- Early involvement with the user is important.

6. HOW TO REINVIGORATE TRADITIONAL PARTNERS WHILE BUILDING THE INNOVATION ECOSYSTEM: WHAT IS THE RIGHT BALANCE?

Dr. Brothers, Under Secretary, DHS, Science and Technology Directorate (S&T) led a discussion on how to reinvigorate traditional partners while building the Innovation Ecosystem. He asked members, “What is the right balance?” and “How do we get where we

want to be?” Trillions of dollars will be invested in to the Internet of Things by 2025, Dr. Brothers believes that DHS S&T involvement is key and is placing the focus primarily upon Smart Cities.

Some feedback from the members included: operating internally, using existing models, transitioning of government developed technology to the private sector? source program and focusing on interagency relationships.

7. RECONVENE

The committee regrouped before finishing for the day in order to take any questions from the public.

ADJOURN: Kareis adjourned the meeting at approximately 4:25p.m

Day Two (Wednesday, June 22nd)

1. RECONVENE AND OPENING

Kareis welcomed the committee members at 9:00 a.m. and summarized the agenda for the day.

2. QUADRENNIAL HOMELAND SECURITY REVIEW (QHSR)

Susan Collier Monarez, Deputy Assistant Secretary, Policy Lead, DHS presented a basic overview of the Quadrennial Homeland Security Review (QHSR). The review, mandated by Congress looks at where DHS has improved over the last four years, what DHS needs to do in order to meet requirements over the next four years, and how does DHS communicates these actions to the stakeholders.

The 2018 QHSR will build upon the foundation of a maturing the Department of Homeland Security, including a revitalized approach for unity of effort, and a formal structure for strategy, planning, and analytic capability. The 2018 QHSR will use a risk-informed analysis to set forward a prioritization of resource and capability options for the next four years. The 2018 QHSR will rely upon inputs from members of the broader homeland security enterprise including partners across the federal, state, local, tribal, and territorial governments, the private sector, and other nongovernmental organizations. It will be completed using a multi-phased approach, including the development of stand-alone homeland security trends, risk, and threat analyses; a review of homeland security roles, responsibilities, and authorities; and deep-dive analysis in areas with great uncertainty and the potential to significantly impact the Nation’s homeland security posture in the next four years.

Monarez asked members to assess and make recommendations to the 2018 version of the QHSR in order to make the document more actionable before the December 31st, 2017 deadline.

Questions from the HSSTAC members included:

Are previous QHSRs looked at to determine room for improvement and what was done correctly? What's new? What's different? What are the next disruptors?

There is no institutionalized analysis but we are looking at a retrospective analysis to look at what we got right, what needs to be improved, and what is important today. The 2010 QHSR identified five mission areas, the 2014 QHSR looked at the capacity for quantifiable risks focusing on priorities and resource allocation. The QHSR 2018 will cover homeland security threat estimates, homeland security trends review, and homeland security risk characterizations. Monarez feels that the current mission areas are the correct areas but can be refined to redirect resources when needed, such as in support of cyber security risks.

Are the gaps within the QHSR able to be sufficiently identified?

QHSR is not necessarily mature enough to recognize the shortcomings just yet. Feedback from the members: looking at disruptors, "is it out of date?" and understand how the department can maximize its resources to mitigate risk. Actionable recommendations are more helpful.

Jason Ackleson, Director of Strategy, Office of Strategy, Plans, Analysis and Risk, DHS presented the 2016 Homeland Security Trends Review (HSTR). He provided an overview of the threats and opportunities for improvement in each of the five mission areas identified in the 2010 QHSR. DHS Office of Policy will conduct a comprehensive literature review and Component subject matter expert elicitation to identify key drivers of change in the homeland security landscape. The HSTR will inform DHS senior leaders by providing insight into current trends affecting homeland security and provide context for selecting QHSR 2018 study topics, the five Missions of the QHSR and asking feedback from the members.

The five missions are as follows:

- Prevent terrorism and enhance security
- Secure and manage our borders
- Enforce and administer our immigration laws
- Safeguard and secure cyberspace
- Strengthen national preparedness and resiliency

Major risk areas put forth by HSSTAC:

Social media as a means of radicalization, Artificial intelligence is becoming easily accessible and usable by all individuals, avoidance behavior (researching ways to avoid security/hide illicit internet activities).

In order to secure and manage borders, real time data analytics is needed to shift resources where they are needed most. While enforcing and administering exiting immigration laws expect trends of increasing immigration to continue, visa overstays are becoming a large issue.

There is a growing need for predictive analytics. Black market commercialization is ever increasing and a challenge to safeguard and secure the cyberspace. Most successful cyberattacks are due to human error (phishing emails and others). Raising training and awareness for the workforce and citizens is essential to help combat successful cyberattacks. Preparedness and responses will likely become more costly and complex as infrastructure upgrades occur, expanding the need for more resiliency. For example, alternative energy is expanding making vulnerability and usage research a priority to protect the infrastructure.

Feedback from the HSSTAC committee members: look at trends, using different metrics, look at interdependencies, how effective is the architecture being used, look at factors you have available and data points, use matrix and critical infrastructures.

Stuart Evenhaugen, Senior Risk Analyst, Office of Strategy, Plans, Analysis and Risk, DHS spoke on the Homeland Security National Risk Characterization findings. The Homeland Security National Risk Characterization (HSNRC) will examine the key threats, hazards, and other factors that pose a substantial risk to homeland security or that could significantly affect DHS's pursuit of its stated missions and goals. DHS Office of Policy will work with DHS Components to leverage existing risk assessments across the mission areas, develop complementary risk assessments for areas not currently covered by DHS Components, integrate risk assessment results, as appropriate, and produce an overarching risk assessment that looks across natural and manmade hazards.

3. COMMENTS FROM THE PUBLIC

Kareis opened up the meeting to take questions from the public. There were no comments.

4. **ADJOURN:** Kareis adjourned the meeting at 3:00 p.m.



Signed: Vincent Chan, HSSTAC Co-Chair

7/22/2016

Date



Signed: John Sims, HSSTAC Co-Chair

7/22/2016

Date

MEETING ATTENDEES

Members:

**Keith Bryant
Vincent Chan
Byron Collie
Mark Dean
Jim Decker
Daniel Dubno
Marian Greenspan
Yacov Haimes
Eric Haseltine
James Hendler
Dean Kamen
Karim Lakhani
Kathie Olsen
Harry Raduege
Gary Schenkel
John Sims
Brian Toohey
Roy Wiggins
Ted Willke**

DHS Briefers and Observers:

Michel Kareis (briefer)
Gretchen Cullenberg
Suzy Dixon Rhoades
Matt Sarlouis
Ana Vazquez
Tod Companion
Jamie Johnson (briefer)
Daryl Kramer
Tyler Newton (Virtual)
Melissa Ho (briefer)
Denis Gusty
Tom Tomaiko
Mike Wilbur

Bradley Schreiber
Stuart Evenhaugen (briefer)
Jason Ackleson (briefer)
Susan Monarez (briefer)
Kathleen Kenyon (briefer)
Caroline Burger
Mark Protacio
Kathryn Coulter
Everett Rhoades
Shruti Chivukula
Joe Anello

Others:

Velma Deleveaux

Melanie Cummings

John Fischer

Joe Presxi

Austin Lam

Dave Shepherd

Bob Kneiz

Patrick Carrick

Joseph Scott

Ed Reid

Cynthia Dron-Schwarz

Patrick Mosllaw

Traci Silas

Kristopher Brown

Lisa Douglas-Naughton

Bob Sogegian

Alison Evans

John Dargan

Woky B.

Narayaki Inmadar

Gene Lockwood-Shabat

Cynthia Dion-Sclug

Brendon Gibson

David Ryan

NOTE: All meeting materials (listed below) are posted at <http://www.dhs.gov/st-hsstac>. No handouts were distributed during the meeting.

Meeting Documents:

N/A

Read Ahead Materials: N/A