

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

September 29, 2016
Virtual Meeting
Minutes

Summary: Twenty five people attended by registering for the virtual meeting or were present in the video room (please see list below).

1. CONVENE AND INTRODUCTION TO DHS S&T

HSSTAC Designated Federal Officer **Michel Kareis** convened the meeting at 1:10 p.m.

Kareis welcomed committee members to the session and thanked them for their participation. She discussed administrative issues regarding communications during the webinar. She briefly mentioned the success the committee has had since the revamp in FY15, going from 11 members to 35. The committee is important to the Directorate because it supports the USST in providing recommendations and advice on what is happening in the private sector with R&D priorities and how to create a vibrant and rich network allowing us to be aware of what is going on in the private sector, academia and the venture capital community. During FY 16, the committee held 4 meetings and currently has 3 active subcommittees: Commercialization Subcommittee, Social Media Working Group Subcommittee, and the Internet of Things Smart Cities Subcommittee. Two new subcommittees, TS/SCI Cyber and QHSR, are in the works. Volunteers are welcome to join. Kareis reiterated to the committee that the work they participate in is extremely valuable to the Directorate.

The first HSSTAC meeting of FY17 will be held November 3-4, 2016 and will discuss road map for FY17. Kareis asks that you please send recommendations or suggestions on what improvements can be made on the committee.

Next **Kareis** introduced the first presenter. Joe Anello, Special Advisor for SAGE, Interagency Programs, Research and Development Programs, DHS S&T. He will be discussing a tool created for the Under Secretary for Science and Technology during emergencies.

2. SAGE – Science Advisory Guide for Emergencies (SAGE) – Joe Anello (11:20)

Anello describe what SAGE is and how it works. SAGE is the Under Secretary's (USST) science advisory guide (tool) used during emergency homeland security incidents. It is S&T's supplemental guide to the DHS Senior Leadership Incident Response Book (IRB).

SAGE lists Subject Matter Experts (SME's) covering 30 homeland security incidents as described in the IRB. The guide lists SMEs that are resourced from four categories: Centers of Excellence; National/Government Laboratories; Industry/Academia; and, Professional Associations. He described the current SAGE concept as a guide that provides contact information for subject matter experts to provide the Science and Technology Directorate, Under Secretary science information (data, context, solutions) to assist with the mitigation, response, and recovery from homeland security threats, incidents, major disasters, and emergencies. Anello explained that SAGE is a service business program that delivers science information before, during and after an incident of national significance.

The history of SAGE includes: Adopting a model used by the United Kingdom and adapting to our US environment. The first version was published in December 2015 and the second version is scheduled to be released in December 2016. The SAGE team in cooperation with the Office of Chief Scientist (OCS) developed a "pre-SAGE concept". Pre-SAGE was defined as delivering science information about homeland security incidents/emergencies that have not yet occurred but are of concern to DHS leadership. Pre-SAGE is the: prevent; protect; and pre-mitigate portion of SAGE. International SAGE and post-SAGE stages - The SAGE team in cooperation with the S&T's OCS, the United Kingdom, and Canada are working towards achieving information sharing agreements for SAGE and pre-SAGE.

A second version of the SAGE guide will be available in December. It will include incidents of emerging threats towards the U.S. Examples of how SAGE and Pre-SAGE can be used was provided. A call for nominations was made by Anello, the nomination form was reviewed and the vetting described. An October 14, 2016 date for responses was given but nominations can be received at any time. The SME's are not paid, the requests from DHS are confidential and a gratuitous service agreement must be signed. Anello asked for questions.

Questions: Hender: Are SAGE experts limited to US citizens?

Anello: It really depends on the background and category for which they are being nominated. All subject matter expert nominations will be vetted by our legal department.

During his closing remarks **Anello** requested committee members to self-nominate or provide recommendations for SAGE subject matter experts with a request for the HSSTAC members to nominate Subject Matter Experts (SMEs) covering 30 incidents/ emergencies of interest to the Department of Homeland Security. He provided his contact information and a nomination form for each member. He reminded them that this was completely voluntary.

3. Updates from the Subcommittees

Subcommittee on Commercialization – Ted Willke, Chair (31:15)

The purpose of the subcommittee on commercialization is to determine what public and private sector best practices can help inform S&T's enhanced commercialization implementation plan. They are to provide feedback and recommendations for the S&T technology development lifecycle managed by S&T that are likely to increase the rate of successful end state outcomes. The expected outcome is a brief subcommittee report with feedback and recommendations (November 2016). The committee kicked off in earnest August 2016. Three meetings have been held. The subcommittee was briefed on current S&T efforts and practices. We are focusing on understanding the unique commercialization challenges facing the homeland security enterprise. The report has been outlined and is a work in progress. Our preliminary recommendations are to provide program managers with more (comprehensive) support, improve accountability and metrics for lifecycle management, and identify new methods of market analysis and technology scouting. The next steps for the committee is to hold a 45 day follow up meeting with DHS domain experts and consultants to resolve open issues. There will also be a 90 day briefing on the preliminary findings and collection of comments for the report finalization. **Willke** then asked if there were any questions from the group.

Questions: Maybury: Did the committee assess the use and effectiveness of new methods for engaging and stimulating the commercial community such as other transaction authority, the use of challenges, investment in VCs, partnerships with VCs (e.g., In-Q-Tel) etc.?

Willke: Yes, absolutely. We discussed the In-Q-Tel model, as a strong component in the proposal related to the Silicon Valley outreach and other incubator communities. What can we do with that community? There is a VC on the committee. Taking that as one vantage point. How do investors do what we are interested in doing? We invite more input and are happy to have more people join the subcommittee.

Subcommittee on Social Media Working Group for Emergency Services and Disaster Management (SMWG) – Chief Keith Bryant, Chair (43:01)

The purpose of this subcommittee is to provide guidance and recommendations to enhance the dissemination of information through social media technologies between the Department and appropriate stakeholders and to improve use of social media technologies in support of preparedness, response, and recovery. Our expected outcomes are the publication of Best Practices for Incorporating Social Media into Exercises report. The subcommittee has held three meetings (May, July, and September). The next steps will be to submit its report to the full committee in early October 2016 for formal input, vetting of comments, and finalization of recommendations to submit to S&T. **Bryant** asked if there were any questions. No questions at this time.

Kareis reminded the committee that they will have a chance to review the work from the subcommittee later so there will be an opportunity to provide input on the reports.

Subcommittee on the Internet of Things (IoT) Smart Cities – Vincent Chan, Chair (46:49)

The purpose of this subcommittee is to develop recommendations to strengthen S&T efforts as it relates to the Internet of Things (IoT): How can DHS best develop a framework for managing constantly changing information from various IoT data streams, particularly in limited time and imperfect information, such as one or more networks experiencing latency or outages during an emergency response as it relates to Smart Cities. Our expected outcome is to provide a whitepaper that includes recommendations for S&T. We have held one meeting so far, collected input from committee members, worked on an outline of the deliverable, and are still collecting data for the deliverable. The preliminary recommendation from the subcommittee is that DHS should substantially participate in IoT/Smart City security and develop applications for civilian government usages such as interoperable communication for first responders. Chan mentioned that draft vu-graphs have been generated for the next meeting. Members continue to have inputs that will be incorporated for the presentation at the November meeting. The next steps for the subcommittee follow a 150 day timeline: 45 day intermediate report, 90 day draft report, and 150 day final report. The subcommittee will submit the deliverable to the full committee for formal input, vetting of comments and finalization of recommendations. Chan then asked if there were any questions or comments.

Questions: Maybury: Will the committee be looking at not only resilience with respect to availability but also integrity? First responders were mentioned but will there also be consideration for IoT operators of industrial infrastructure (e.g., energy, oil and gas, transportation)?

Chan: Yes, when we say resilience we assume the integrity of the system in question is not compromised. In my own personal opinion, this would be an interesting topic for the whole committee to discuss. I think if you have a system with many interfaces to the outside world, you have to make sure it is providing reliable and not compromised or contaminating information. Integrity is extremely important. Integrity is definitely in our goals. In regard to the rest of the question, I think IoT should extend the umbrella to cover those areas. There is a tremendous amount of vulnerability that can bring havoc to the autonomous systems such as autonomous vehicles.

For, the energy and power grid, the IoT might have infrastructure points near these systems so it can act as a second check point for these systems and their integrity.

4. Comments from the HSSTAC Co-Chairs (56:00)

Kareis asked if there were any comments from the HSSTAC Co-Chairs.

Chan reminded the committee that the November meeting was coming up. He asked the group to do some homework and bring questions. We will try to get out material in advance.

If you have any questions on any of the input please send in advance so we can all engage at the meeting. **John Sims**, Co-chair of HSSTAC, had no additional comments.

5. Brief Discussion on upcoming Agenda items – Michel Kareis

SAGE and QHSR will be on the November agenda. QHSR will be providing updates on the next review they will be putting out. They would like to have some feedback on the topics. Dr. Brother's will be addressing the committee on the first day. Day 2 will cover IoT because of its importance to the Under Secretary and his interest in the Smart City of the future. We will also be discussing the FY17 Roadmap. This is an opportunity to identify goals and objectives for the FY17-. How are we going to align to create more vibrant subcommittee work, providing recommendations that are more formal and tracked by actions that are implemented and how they are implemented by S&T. We expect FY17 to be more open and with more formal feedback so everyone knows what is happening with the recommendations that are submitted to DHS. We will have an Administration change so we must be prepared.

Kareis introduced Dr. Reginald Brothers, DHS, Under Secretary for the Science and Technology Directorate.

6. Message from Dr. Brothers (1:12:00)

Brothers Thank you for participation. We know you have very important things to do so thank you for supporting what we do here at Science and Technology. It is important for our families, country, and communities. We do thank you for this. There are a number of things that are important today. I have heard some output from the participants and thank you for your feedback.

To continue the conversation on IoT Smart Cities, we had a panel discussion on IoT Smart Cities last week. I met with Arlington County, local businesses and other government agencies on how we use these technologies to aid in resiliency for communities. There was a lot of enthusiasm in the group and desire for follow up. This particular subcommittee is appreciated for the work you have done and continue to do. It's important because we are trying to inform the Directorate how we should proceed in this particular area. There is a focus on individual gadgets and technology but not how they are integrated. There isn't enough strategic thought in this space outlining what a resilient community should look like. This is the type of strategic thinking we need. I don't want to keep you too long so thank you so much for participating, as always it's greatly appreciated! Thank you!

Kareis asked if there were any questions for Dr. Brother's.

Question from Maybury: Are there any new areas you are most concerned with for our focus, e.g., UAVs etc.?

Brothers: Those are a couple of areas we need to start talking about so why don't we plan on doing that.

Kareis added as a follow up to the response there will be 90 minutes of discussion with Dr. Brothers on these issues at the November meeting. Kareis thanked the committee for their participation.

7. Final questions from the public

No questions from the public.

8. ADJOURN: Kareis adjourned the meeting at 2:30 p.m.

Signed:  (Vincent Chan, HSSTAC Co-Chair)

Date: Dec 13, 2016.

Signed:  (John Sims, HSSTAC Co-Chair)

Date: Dec. 15, 2016

MEETING ATTENDEES

HSSTAC Members:	DHS Attendees:
Marian Greenspan	Michel Kareis
Harry Raduege	Gretchen Cullenberg
Brock Reeve	Tyler Newton
Christina Williams	Joseph Anello
Dan Dubno	Joseph Martin
Gary Schenkel	Julie Brewer

Jim Decker

Suzy Dixon Rhoads

Jim Hendler

Matt Sarlouis

Jim Schwartz

Mitch Erickson

John Sims

Jay Farr

Other Attendees:

Keith Bryant

Davie Olive

Ted Willke

Vincent Chan

Mark Maybury

NOTE: All meeting materials (listed below) are posted at <http://www.dhs.gov/st-hsstac>.

Meeting Documents: *(if you would like a copy of the following documents please email Michel Kareis at Michel.Kareis@hq.dhs.gov)*

1. Joseph Anello's Bio
2. Fact sheet on SAGE
3. Nomination form for SAGE Subject Matter Experts

Read Ahead Materials: N/A