Synthetic Aperture Standards Committee Kickoff Meeting

January 13, 2022

Synthetic Aperture Kickoff Agenda

Meeting Agenda for January 13, 2022

Call to Order

Introduction and Affiliation Declarations – *please provide name, email, affiliation*

Review of Synthetic Aperture Standards Committee Policies and Procedures
- **a. Role of a Standards Committee**
- **b. Scope of this Standards Committee**

Standards Committee Voting Membership Establishment

Approval of Agenda as described herein
- **a. Mover**
- **b. Seconder**
- **c. Discussion**
- **d. Result (approve, disapprove, abstain)**

IEEE Patent Policy
- **a. Call for Patents**

IEEE Copyright Policy
- **a. Copyright Slides**

Establishment of Officers by Appointment based on Policies and Procedures Clause 3

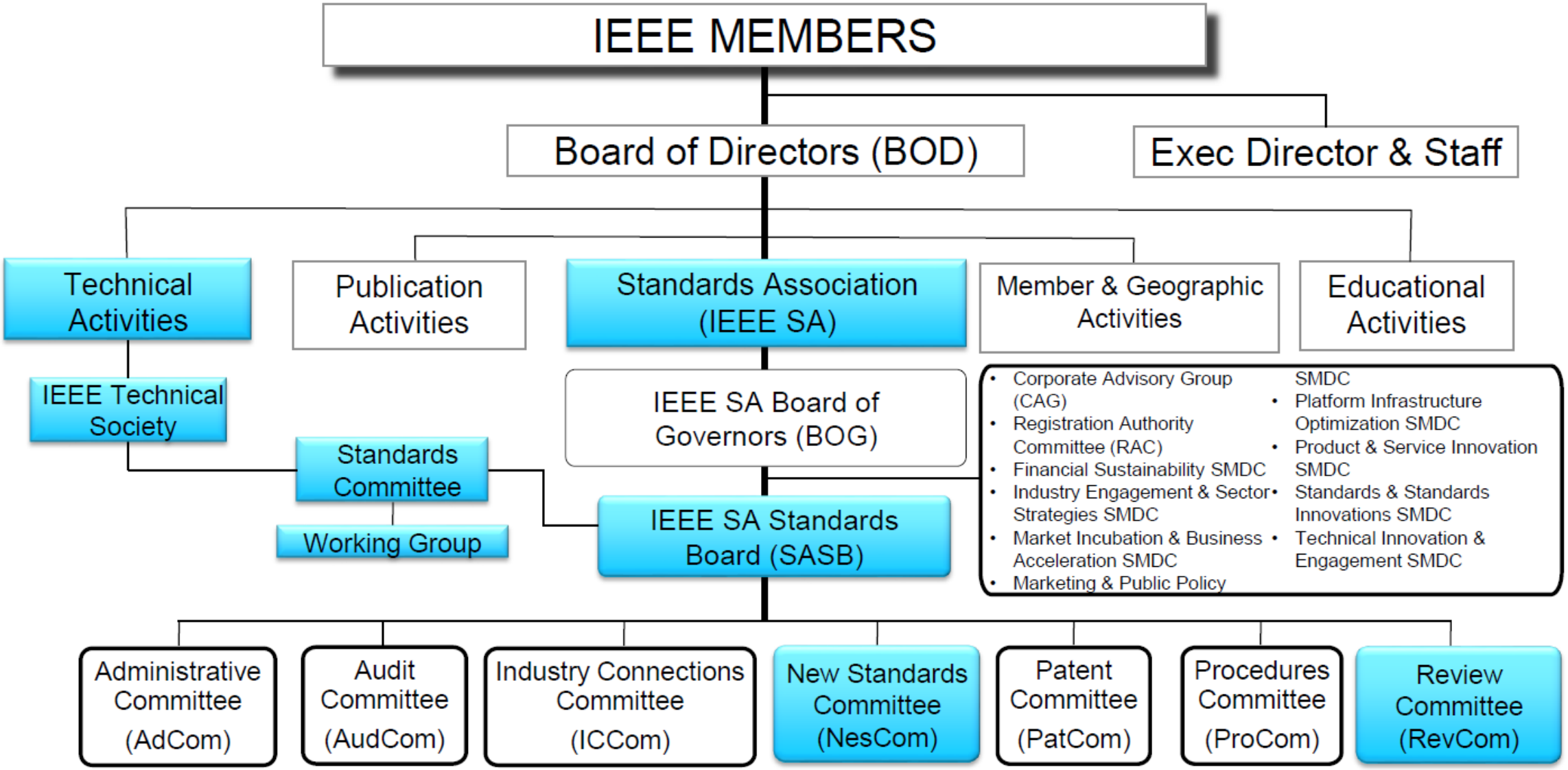
Discussion Topics
- **a. Procedural Items**
  - **i. Review of Policies & Procedures document for Working Groups**
  - **ii. New Project Authorization Request (PAR) for synthetic aperture channel sounding standards development project**
- **b. Committee Program**
  - **i. Plans for 2022**
- **c. Other discussions**

New Business

Future Meetings
- **a. Consider Standards Association Standards Board (SASB) calendar and NesCom submission deadlines in 2022 -- 11 February, 17 March, 06 May, 11 August, 14 September, 13 October**

Adjourn

Role of a Standards Committee



Importance of Standards

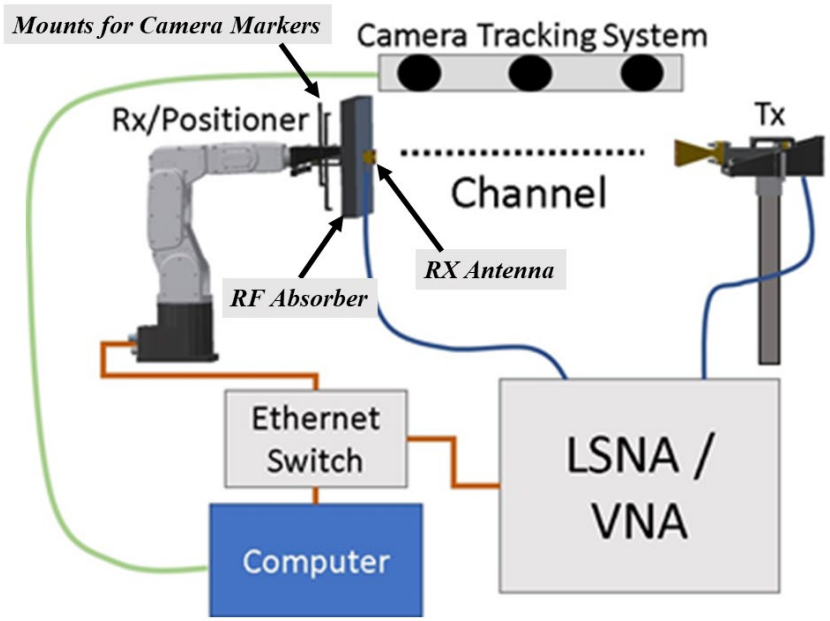
- Standards are a lynchpin of modern commerce
- Allow systems and sub-systems manufactured by different vendors to be interoperable
- Define best practices for measurements
- Synergy gained by bringing together researchers working independently in disparate synthetic aperture applications to share ideas, methods and algorithms for the mutual benefit of each participant and for the benefit of the broader technical community

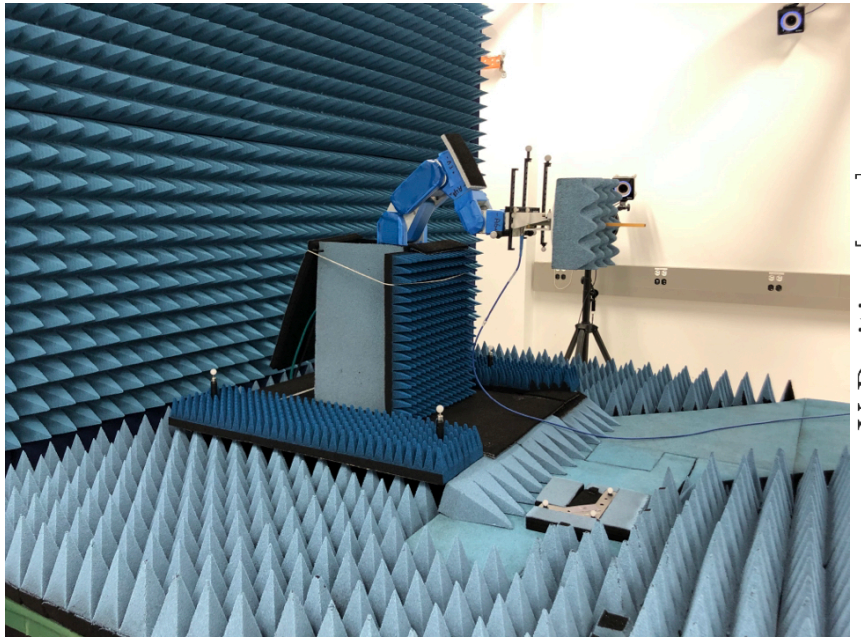
Scope of Synthetic Aperture TWG

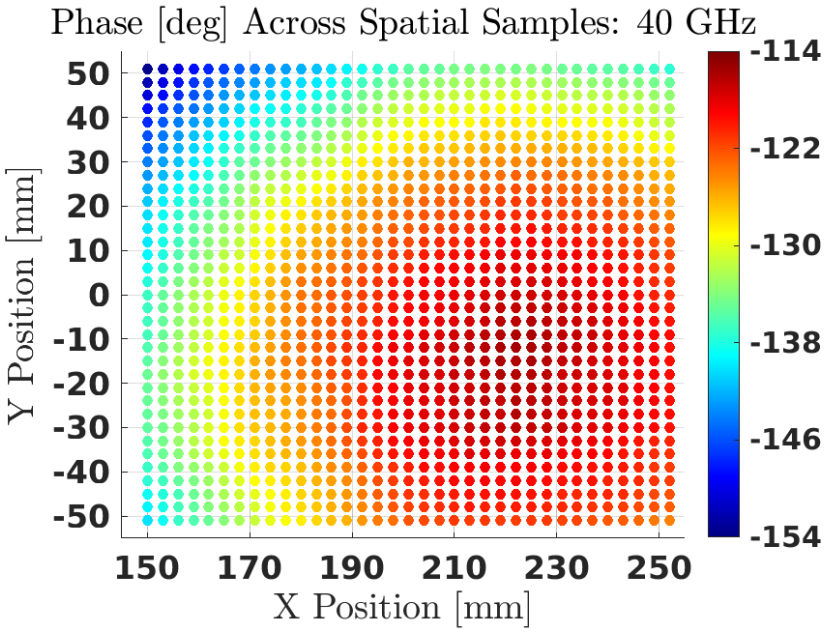
- The scope of the Synthetic Aperture Standards Committee is limited to the development, validation, and dissemination of technical standards that describe the processes, procedures, and hardware necessary to correctly perform synthetic aperture measurements in electromagnetic environments

- These measurements can be used to accurately characterize propagating and scattered electromagnetic radiation from targets and scatterers in RF channels
  - Radar
  - Channel Sounding
  - Quantum Apertures

Example of Synthetic Aperture

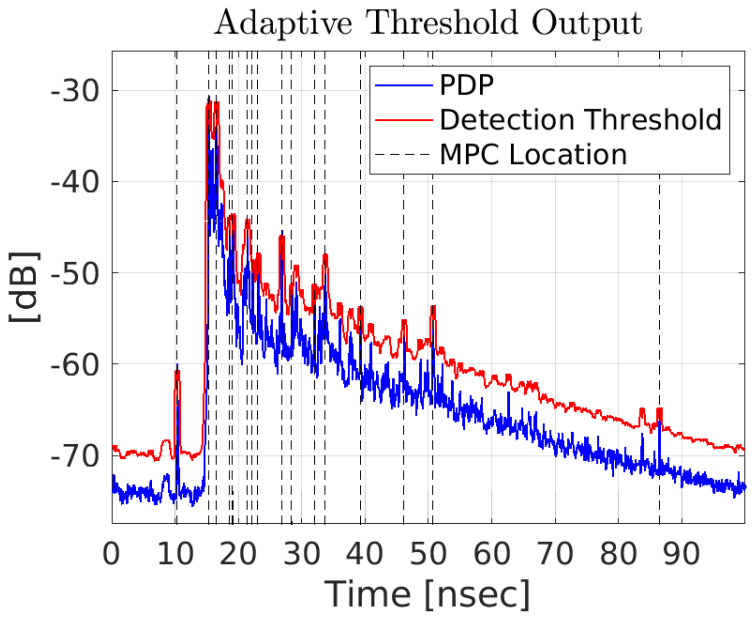


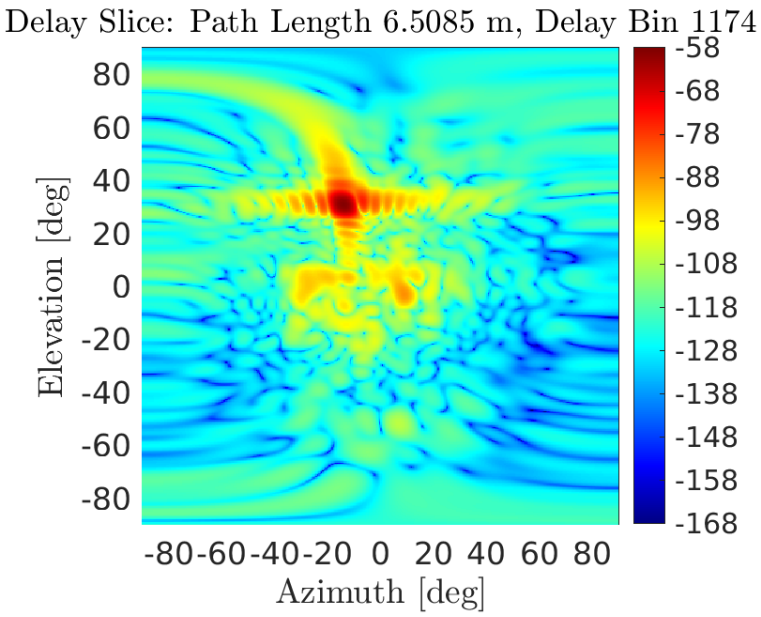




- *A synthetic aperture sequentially collects digitized signal samples across a spatial volume*
- *In post-processing the samples are coherently combined to yield an image of signal sources*

Sample Measurements





Synthetic apertures can provide high-resolution measurements in dense scattering environments

Committee Officers

- ***Mr. Peter Vouras***
  - Chair, National Security Agency
- ***Dr. Kumar Vijay Mishra***
  - Vice-Chair, Army Research Laboratory
- ***Dr. Aly Artusio-Glimpse***
  - Secretary/Treasurer, National Institute of Standards and Technology

Upcoming Items

- Policies and Procedures Document for Working Groups
  - Draft will be posted to SASC website for review
  - https://sagroups.ieee.org/sps-sasc/
- New Project Authorization Requests
  - Baseline VNA-based synthetic aperture channel sounder
  - Radar
  - Quantum
- Next Meeting Date