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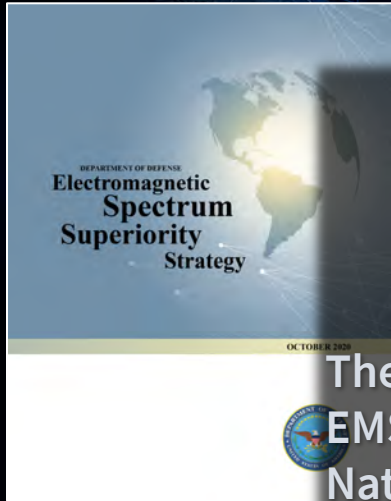
EW & EMS SUPERIORITY ROUNDTABLE



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SETTING THE [EW & EMS SUPERIORITY] ROUNDTABLE



DEPARTMENT OF DEFENSE 2020 ELECTROMAGNETIC SPECTRUM SUPERIORITY STRATEGY PURPOSE AND SCOPE

The purpose of the 2020 Department of Defense EMS Superiority Strategy is to align DoD EMS activities with the objectives of the 2017 National Security Strategy (NSS), the 2018 National Defense Strategy (NDS), and national economic and technology policy goals. This Strategy embraces the **enterprise approach** required to ensure EMS superiority by integrating efforts to enhance near-term and long-term EMS capabilities, activities, and operations. The Strategy informs the Department's domestic EMS access policies and reinforces the need to develop cooperative frameworks with other EMS stakeholders in order to advance shared national policy goals. The traditional functions of **Electromagnetic Spectrum Management (EMSM)** and **Electromagnetic Warfare (EW)**—integrated as **Electromagnetic Spectrum Operations (EMSO)**—are addressed within the document's strategic goals. This 2020 Strategy builds upon the successes of and supersedes both the DoD's 2013 EMS Strategy and 2017 EW Strategy.

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GUEST SPEAKER INTRODUCTION – MR KEN DWORKIN (SES, RET)



FEATURED PANELISTS:

Brig Gen AnnMarie Anthony, ANGUS

Deputy Director, Joint EMS Operations (J3E), USSTRATCOM

Mr David Tremper (SES)

Electronic Warfare Director
OUSD (A&S)

Col William Young, PhD

(Incoming) Commander, 350th Spectrum Warfare Wing
Product Line Manager, USAF ABMS spectrumONE

Dr Ilya Lipkin

Technical Lead, AFLCMC Sensor Open Systems Architecture (SOSA)

Brig Gen David Abba

Director, USAF F-35 Integration Office

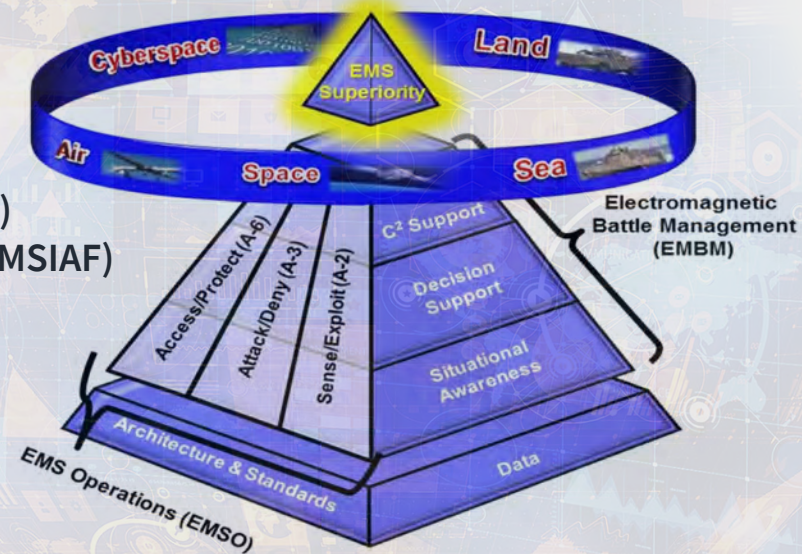
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OPERATIONALIZING EMS SUPERIORITY – BRIG GEN ANNMARIE ANTHONY



CCMD Perspectives - USSTRATCOM

- Unified Command Plan (UCP) Responsibilities
- EMS Workforce
- Support to DoD EMS Superiority Strategy
- The “Trinity:”
 - Joint EMS Operations Center (JEMSOC)
 - Electromagnetic Battle Management (EMBM)
 - Joint EMS Information Analysis & Fusion (JEMSIAF)



VISION & GOALS

Vision: Freedom of Action in the Electromagnetic Spectrum

- Goal 1: Develop Superior EMS Capabilities
- Goal 2: Evolve to Agile, Fully integrated EMS Infrastructure
- Goal 3: Pursue Total Force Readiness in the EMS
- Goal 4: Secure Enduring Partnerships for EMS Advantage
- Goal 5: Establish Effective EMS Governance

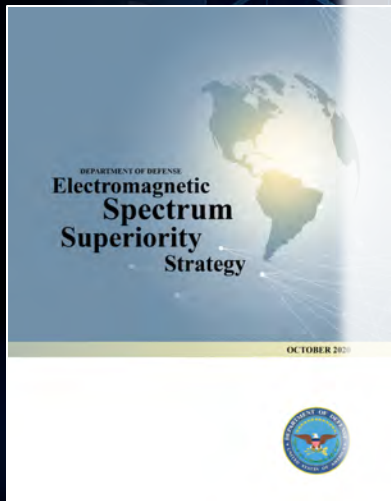


Image source: doctrine.af.mil (Annex 3-51)

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EW & EMS SUPERIORITY WAY FORWARD – MR DAVE TREMPER (SES)



OUSD (A&S) EW Areas of Emphasis:

- Creating EW investment efficiency
- Realizing software defined, multi-function systems
- Accelerating EW capability development and deployment
- Distributing, netting and coordinating sensor systems, operations
- Achieving full spectrum (RF/EO/IR) EW capabilities
- Creating synergy across IO/ISR/EW operations
- Enabling spectrum superiority within EMSO
- Enabling training for EMS superiority

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350TH SPECTRUM WARFARE WING – COL "DOLLAR" BILL YOUNG



THINK
ABOUT
THINGS
DIFFERENTLY

Image source: pexels.com

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CONCEPTUAL ARCHITECTURE FOR SPECTRUM WARFARE – COL "DOLLAR" BILL YOUNG



Image source: pexels.com

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SENSOR OPEN SYSTEMS ARCHITECTURE (SOSA) – DR ILYA LIPKIN



SOSA Benefits Government & the DoD:

Requirements

SOSA promotes **procurement efficiency** by providing consistent guidance for system requirements and enabling use of standardized contracting language.

Acquisition

SOSA **shortens acquisition timelines** for standards-based capabilities that maximize component re-use, limit NRE (non-recurring engineering), reduce development costs.

Sustainment

SOSA systems feature increased commonality that enables **more efficient maintenance** using readily interchangeable components.

Interoperability

SOSA sensors allow for dramatically **enhanced systems interoperability**, enabling composable mission capabilities & novel multi-domain solutions.

SOSA Benefits Industry:

Risk

Mature, predictable procurement requirements allow for more nimble industry response with **reduced solution design risk** plus clear performance & conformance evaluation .

Development Cost

Vendors can leverage proven modular decomposition, known interface definitions, standard tooling, and component re-use to **minimize NRE, lower costs.**

Product Families

Vendors can create functional product families based on the SOSA reference architecture, leveraging the inherent composable nature of the modular standard to focus on **innovative solutions.**

Strategic Sourcing

SOSA **broadens the sensor systems industrial base** by promoting COTS component vendors, creating a sensor ecosystem that lowers the bar to entry for creative small & non-traditional businesses.

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JOIN THE SOSA CONSORTIUM – THE "STANDARD OF STANDARDS"



SOSA™ Consortium Overview

The SOSA Consortium empowers government and industry to collaboratively develop open standards and best practices to accelerate the deployment of affordable, agile, and composable sensor systems.

In line with the 2019 MOSA directive from the Department of Defense, the SOSA Technical Standard leverages modular design and widely supported, consensus-based, non-proprietary standards for key interfaces that are expected to:

- Accelerate fielding of new capabilities
- Reduce integration cost and risk
- Streamline development
- Simplify modernization and sustainment
- Mitigate obsolescence challenges
- Facilitate interoperability and reuse
- Enable rapid composition of capabilities from conformant elements

Sponsor Level Members



Principal Level Members

BAE Systems, Inc.	Mercury Systems
Elbit Systems of America	Northrop Grumman
FLIR Systems, Inc.	Physical Optics
GE Aviation Systems	Raytheon
General Dynamics	Sierra Nevada Corporation
L3Harris	SRC Inc.



The Open Group is a global consortium that enables the achievement of business objectives through technology standards.

It is also an enabler for consortium participation by US Government agencies.

For more information on The Open Group, go to www.opengroup.org

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Associate Level Members

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Acromag, Inc.	Mellanox Federal Systems
Aegis Power Systems	Meritec
Aitech Defense Systems	Micro Focus (US)
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Anduril Industries	Milpower Source
Annapolis Micro Systems	Motorola Solutions
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Cobham AES	Orolia Defense & Security
Concurrent Technologies	PacStar
CoreAVI	PCI Systems
COTSWORKS	Penitek
CRFS	Perspecta Labs
Critical Frequency Design	QRC Technologies
Crossfield Technology	RADA Technologies
Curtiss-Wright Defense Solutions	Rantec Power Systems
Dawn VME Products	Real-Time Innovations
Delta Information Systems	Reflex Photonics
DomerWorks	Riverside Research
DRS Signal Solutions	RTD Embedded Technologies
DRTI	Samtec
EIZO Rugged Solutions	Selex Galileo
Elma Electronic Inc.	SimVentions
Epiq Solutions	Skayl LLC
FEI-Elcom Tech	SMART Embedded Computing
Freedom Power Systems	Southwest Research Institute
Georgia Tech Research Institute	Spectranelix
GORE	SR Technologies
Great River Technology	Star Lab Corp
Herrick Technology Laboratories	SV Microwave
Interface Concept	TE Connectivity
iRF Solutions	Telephonics
Jovian Software Consulting	Tucson Embedded Systems
KEYW Corporation	Univ. of Dayton Research Institute
Kontron America	VITA
LCR Embedded Systems	VTS
Lead Dog Technologies	Wolf Advanced Technology Inc.
Leidos	

SOSA™
Sensor Open Systems Architecture
Sensor Integration Simplified™



An integrative and inclusive standard to accelerate the development of affordable, agile, and composable sensor systems.

www.opengroup.org/sosa
ogsosa-admin@opengroup.org

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EW & EMS INTEGRATION & INTEROPERABILITY – BRIG GEN DAVE ABBA



F-35 Integration & Interoperability

- “A computer that happens to fly”
- Software is linchpin of competitive advantage
- Consumer AND producer of data
- EW enables interoperability



Challenges to Overcome

- Reconciling EW | Acquisition | Operational perspectives
- Intelligence data sharing
- Reprogramming at the "speed of relevance"
- Rapidly changing EMS environment

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ACKNOWLEDGEMENTS...PLUS SOME EW & EMSO RESOURCES



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OF OLD CROWS



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EW & EMS SUPERIORITY ROUNDTABLE - QUESTION & ANSWER (Q&A)



Brig Gen AnnMarie Anthony, ANGUS

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