

**SUBJ: Strategic Multilayer Assessment –  
Integrating Information in Joint Operations (IIJO)**

**SMA Mission:** Strategic Multilayer Assessment (SMA) provides decision and planning support to Combatant and Joint Force Commanders facing complex operational and technical imperatives that require collaborative, multi-agency, multi-disciplinary, mixed-method approaches. SMA’s goal is to expand strategic horizons and inform choices that lead to more effective strategy formulation. SMA provides a diversity of thought and opinion by drawing on subject matter expertise from leading academics and practitioners from the public and private sectors globally. SMA activities are accepted and prioritized by the Joint Staff (JS/J-3/DDGO) and resourced by OUSD(R&E)/RRTO.

**Overall Objectives**

At the request of Headquarters US Air Force (HAF), SMA initiated a study to address relevant aspects of JROCM 068-19, “Operations in the Information Environment DOTMLPF-P Change Recommendation (DCR).” The purpose of this SMA effort is to define how Joint Force Commanders, Joint Force and Service Component Commanders, and their respective staffs can best understand and integrate information and influence into operational-level planning, execution, and assessment activities across the competition continuum. (POC: Sandeep Mulgund, AF/A3).

**Why We Are Here:** We are living through a global transition to an Information Age where the centrality and velocity of information and enabling digital technologies define the age and have emerged as a new global commons. An increasingly complex and growing network of human connections has accelerated the creation of information and democratization of knowledge, leading to a diffusion of power away from traditional centers and an

unprecedented rise in human agency. The implications are profound. The National Defense Strategy (NDS) has reoriented the defense establishment to a multipolar, great power competition framework that challenges us to sustain our comparative advantage across a continuum of interactive relations from peace to war. State and non-state adversaries recognize America’s dominant military advantage and are adapting their operations, activities and investments to compete with the US below the level of armed conflict, principally in the information environment (IE) where the asymmetries are less pronounced. Competing effectively requires a deep and abiding understanding of operations in the information environment (OIE). The Air Force has concluded that military planners, strategists, and analysts must “lead with information” and make it a core strength to compete more effectively in the IE.

**IIJO Mission Statement:** Assess the ways in which the Joint Force can most effectively integrate information and influence into its activities across the competition-conflict continuum.

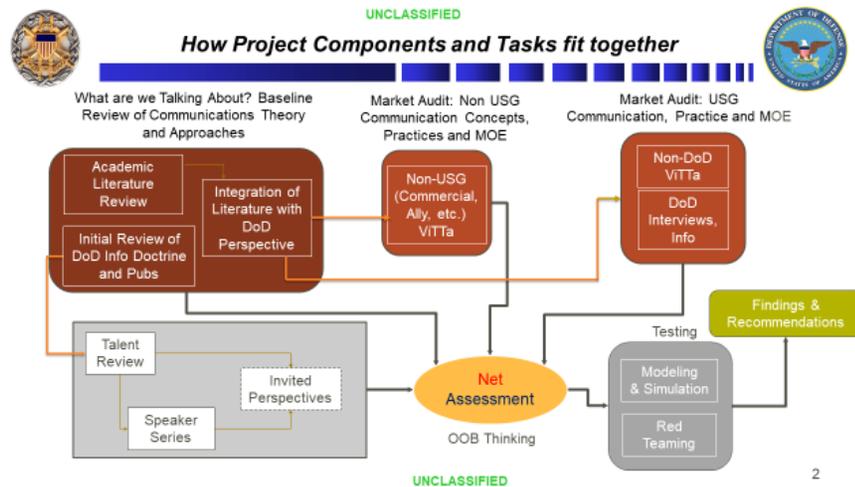
SMA will address the following five questions:

1. How are state and non-state actors operating in the information environment (IE), and what can we learn from their approaches? How might this be used to inform Joint Force (JF) strategy and planning approaches?
2. What are suitable Operations in the Information Environment (OIE) assessment frameworks and approaches?
3. What are key escalation thresholds in the information environment for priority National Defense Strategy/National Military Strategy adversaries?
4. What are relevant insights from private sector firms and non-governmental organizations on affecting perceptions and behavior on macro, meso, and microscales?

- The orientation to leading with information represents a significant culture change for the Joint Force. How have non-Department of Defense (DoD) institutions handled such organizational change?

## Project Overview

The project plan includes a literature review, expert elicitation utilizing the Virtual Think Tank (ViTTa), invited perspective reports from domain experts, a dedicated IJO speaker series, a net assessment of comparative US-Russia-China advantages in OIE, and modeling and simulation to test key hypotheses emerging from the net assessment regarding effective integration of information in operations. A final integrated report that will summarize the findings of all the research teams into one document. The effort will conclude by May 2021.



In the first phase of the project, the **Literature Review** will engage the academic community to define and understand defining components of effective communication, highlight existing theories

and approaches, and review DoD doctrine. During the “**Market Audit**,” teams will interview subject matter experts (SMEs) to better understand best practices and challenges encountered by those from the private sector, adversaries and allies, and from across USAID, State, and DoD.

The knowledge generated from the literature review and market audit will feed the second phase of the study: the **Net Assessment**. The goal of the Net Assessment is to understand the intent behind the actors’ intentions, the competitiveness of US integration of information in operations compared to China and Russia, bureaucratic and political processes that act as barriers or gateways to effective integration of information in the OIE, and the external, outside influences on OIE. The Net Assessment will also be supported by dossiers describing how the US, Russia, and China prioritize their interests and establish their bureaucratic structure within OIE.

In the third phase, hypotheses generated from the Net Assessment regarding how the USG can best organize to integrate information in operations will be tested through three **Modeling and Simulation** efforts. The Red Team event will test the hypotheses in a simulated competition environment. Quantitative experimentation will test the hypotheses in a statistical analysis. Finally, a course of action analysis tool will dive deep into a specific threat in the IE to explore the outcome of simulated best practices.

Finally, as final deliverables coming out of the previous phases are disseminated, the team will write an integrated report that will combine, summarize, and pull together findings from the all the completed work throughout the effort.

## Literature Review

**Quick Looks** (POC: [Belinda Bragg](#), NSI & [Skye Cooley](#), MESA Group):

- **SMA Prior Work**- This annotated bibliography comprises nearly 50 SMA studies and speaker series events in five areas related to the information environment: 1) bio-psycho-social drivers of instability, 2) messaging & counter-messaging, 3) competition and conflict, 4) influence, and 5) cyber considerations. (Available for download [here](#))
- **Evolution of Communication Models**- This Quick Look is a review of foundational models that are considered key developments in the theory of communication and each provides a critical insight into operating in the IE. (Distribution: October 2020)
- **Cognitive Biases: Causes, Effects, and Implications for Effective Messaging**- This Quick Look reviews 38 types of cognitive biases most relevant to what makes communication effective in the information environment as conceptualized in the Joint Concept for Operating in the Information Environment (JCOIE). (Available for download [here](#))
- **Fake News**- In this Quick Look, we discuss how social science principles can help us build our individual skills at detecting and resisting fake news.
- **Influencing Public Behavior: Takeaways from Public Communication Scholarship**- This Quick Look reviews scholarship on public communication campaigns and provides insight into six characteristics of effective communication campaigns.
- **Communicative Power in a Globalized “Network Society”**- This Quick Look outlines Castells’ argument that the forces of

globalization have created an interlinked global network of systems favoring communication as a form of power. The foundational sources of power are discussed in relation to social systems, offering the reader a conceptual roadmap of the impacts of communication across modern interlinked globalized networks.

- **Propaganda and Disinformation**- This Quick Look details the distinction between misinformation and disinformation; exploring how the latter is used in the digital era and the challenges posed to government systems as a consequence. Tips for countering and recognizing disinformation are offered throughout.
- **Understanding Mass Self-Communication**- This Quick Look takes the form of Q&A discussing the novelty of mass communication in the digital era. It details how barriers between old media and new media are disappearing and explains new forms of labor value created by technological access.
- **Inoculation Theory**- This Quick Look explores the distinction between active and passive refutation within Inoculation Theory. While “dosing” negative information and modeling counterarguments can effectively inoculate communities from outside influence, teaching critical awareness and information literacies is seen as a superior approach.

**Effective Communication Model and User’s Guide** (POC: [Belinda Bragg](#), NSI): Building on the theoretical work presented in the literature review Quick Looks, the MESA and NSI team developed a model of effective communication designed to help planners and operators identify and avoid barriers to effective communication, and maximize the likelihood that their messages will be received and interpreted by their intended audience in a timely manner.

## Market Audit (SME Elicitation)

**Allies and Adversaries Virtual Think Tank (ViTTa®)** (POC: [Sarah Canna](#), NSI): This expert elicitation effort attempts to understand how US adversaries and allies conceive of information as a lever of national power and influence. The effort will also seek to understand best practices, measures of effectiveness, and escalation thresholds in the information environment from the perspective of select adversaries and allies including Australia, Estonia, France, Japan, NATO, Poland, the UK, Russia, and China.

**Private Sector Virtual Think Tank (ViTTa®)** (POC: [George Popp](#), NSI): The NSI team is implementing its ViTTa methodology to interview and elicit insights from communication and messaging experts in the private sector. In particular, this effort is targeting experts in the fields of advertising, marketing and branding, journalism, public health communications, and storytelling. The guiding question for this ViTTa elicitation is: What are relevant insights from the private sector with respect to using information and messaging to affect perceptions and behavior for different audiences?

**US Government (USG) Virtual Think Tank (ViTTa®)** (POC: [Sabrina Polansky](#) & [Belinda Bragg](#), NSI): The USG ViTTa team is focusing on the three D's—diplomacy, development, defense—and interviewing SMEs working (currently and formerly) within the Department of State (DoS), the United States Agency for International Development (USAID), and the Department of Defense (DoD). Interviews are exploring themes emerging from the following broad topics:

- How the USG agencies conduct and coordinate activities specifically focused on engaging and influencing populations (e.g., public diplomacy, information operations).

- How USG agencies currently plan for the informational aspects and implications of ALL of their activities, (i.e., not just those specific to Information Operations/Strategic Communications)?

**Affecting Change Perspectives** (POC: [Alexa Courtney](#) & Jess Williams, Frontier Design): This invited perspectives on change management and cultural adaptation will contribute to the project's overall exploration of barriers to change that may be preventing service men and women from integrating and applying the many strategy, concepts, policies, and doctrine that already exist about how the Joint Force will operate in a complex information environment. This will offer relevant insight and analysis about how other organizations (both DoD and non DoD entities) have transformed their mindsets, practices, norms and workflows to accommodate new and/or prioritized missions and functions. Interviews will focus on human and organizational dynamics that enable and impede change initiatives at scale, especially changes to organizational culture.

**Invited Perspectives** (POC: [Ali Jafri](#), NSI): Invited authors contributed “think pieces” on concepts important to the Integrating Information into Joint Operations effort. These 8-10 page, academic-style essays discussed approaches for addressing complex and novel issues across the competition continuum.

## Net Assessment

**Digital Virtual Integrated Net Assessment (DiViNa)** (POC: [Larry Kuznar](#), NSI): Given the sea change the Joint Force faces with integrating information in operations, and the stated concern with the competitiveness of US OIE versus adversarial OIE in the current context of global competition and conflict, a net assessment approach will be taken to assess how competitive US efforts are in relation to adversaries in the 21<sup>st</sup> century environment. Net assessment is a

systematic, multidisciplinary scientific process of comparing strategic balances within environmental context. The net assessment of US OIE in comparison to its adversaries focuses on four key event horizons in the a state's communication: alignment of communication with national interest and strategic objectives, development and execution of communication, the impact of exogenous factors outside of control, and the competitiveness with alternative messages. The work of the literature review and market audit will provide a common set of information for the net assessors. Four teams of SMA and outside experts will assess each of these event horizons, and a fifth team will integrate their findings and collate a set of hypotheses regarding US OIE that will then be tested through modeling and simulation.

### **Modeling & Simulation**

**ICONS/CART Simulation** (POC: [Gary Ackerman](#), University at Albany & [Devin Ellis](#), University of Maryland/START). The ICONS/CART team will employ two separate yet integrated human simulation approaches to build on the findings of the Net Assessment and Market Audit components. This will entail first validating a set of hypotheses regarding US OIE by implementing a large-sample Red Team experiment using proxy decision makers from similar cultural backgrounds to actual adversaries. The experiments will also provide contextual experimental data for further simulation. The results of these experiments will then inform a series of table-top wargames exploring the specific requirements of Joint OIE to achieve US goals in competition with great power adversaries, as previously identified. These TTX style games will be conducted over an online platform, enabling substantial, distributed participation by stakeholders and SMEs and will include a dedicated Red Team. Novel or contradictory outcomes will be further investigated and validated using targets distributed Red Teaming.

**Athena Simulation** (POC: [Howard Lee](#) & Luke Roth, TRADOC G-2): Athena Simulation modeling will be used as an evaluative capability to provide computational assessments of several of the SME conclusions developed during the planned ViTTa events. Athena will also be involved with developing and/or evaluating measures of effectiveness (MOEs) for determining how well an information campaign is resonating with noncombatant populations and/or with regional actors and governments.

**Timed Influence Net Modeling and Operational Planner Simulations** (POC: Robert Elder, George Mason University): George Mason University is developing frameworks to identify potential sources of strategic risk focused on US and competitor integration of information in joint operations. These frameworks will be used as the foundation to construct Timed Influence Net (TIN) models, perform computational experiments, and conduct workshops with actual Operational Planning Teams (OPTs) where evolving approaches to integration of information will be evaluated.

### **Integration Report**

**Integration Report: Final Findings and Recommendations** (POC: [Lawrence Kuznar](#), NSI): NSI will distill key insights from all research tracks, from the literature review to the net assessment, into one final integrated report covering main findings and recommendations.

### **IIJO Speaker Series**

SMA will initiate a speaker series for this effort. Suggested topics/speakers should be forwarded to the POC for this series is [Nicole Peterson](#), NSI.

### Overall Schedule

Formal request from AF/A3 .....	20 Jan 2020
IIJO Kick-off .....	13 Aug 2020
Working Group #1a.....	09 Oct 2020
Working Group #1b.....	23 Oct 2020
SRG #1.....	TBD
SRG #2.....	TBD
Final Research Deliverables.....	end of Apr 2020
Integration Report.....	end of May 2020
SRG #3.....	May 2020
Closeout Memo.....	TBD

### SMA Knowledge Management

Deliverables for this and other SMA efforts can be found at <https://nsiteam.com/sma-publications/>

To access select IIJO Speaker Series event audio recordings, go to <https://nsiteam.com/sma-speaker-series/>

To access the NIPR, SIPR, and JWICS Inteldocs folder, please email [Mariah Yager](mailto:mariah.yager@nsa.gov).