



Alamo AFCEA and IPA



Alamo AFCEA / Information Professionals Association Combatting Disinformation Panel 29 October 2020



IPA
INFORMATION
PROFESSIONALS
ASSOCIATION

www.information-professionals.org



Today's Agenda



Administrative Remarks

Introduction

Combatting Disinformation Panel

Upcoming Events

Connecting People, Ideas and Solutions Globally



AFCEA is a Connecting Organization



Chapter Perspective

- The community's safety and health is our number one priority
- We've doubled education/engagement activities via virtual events
 - Providing the relevant, up-to-date information that professionals expect from their professional association
- During the pandemic, chapter online events are free and open to all
- Check out our calendar at www.AlamoAFCEA.org/Events
- Find more free webinars at <https://www.afcea.org/content/webinaronline-events>



Questions? Ideas?
Reach us at info@AlamoAFCEA.org

Connecting People, Ideas and Solutions Globally



Alamo Chapter Luncheon Sponsors



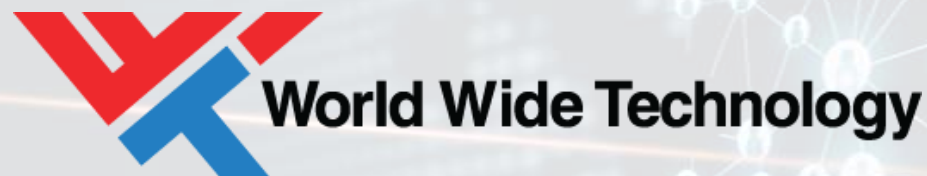
accenture



LMI

DTSI
DIVERSIFIED TECHNICAL SERVICES, INC.

GDIT



Deloitte.



AKIMA



Connecting People, Ideas and Solutions Globally

Bringing Together Experts in Cognitive Security



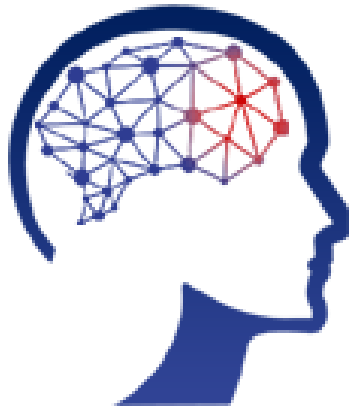
IPA
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<https://information-professionals.org/>

We are a partnership of information professionals focused on the study, advancement, and application of information-related activities and technologies to achieve specific, predictable effects.

Our mission is to **provide a forum for information professionals to interact, collaborate, and develop solutions that enhance the cognitive security of the US and our friends and allies.** The IPA serves as the nexus for information professionals interested in the application of soft and hard science, advanced analytics, and innovative technologies to advance security, prosperity, shared values, and international order through the free flow of ideas and information.

IPA Luncheon Sponsors



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IPA and Alamo AFCEA Disinformation Panel



Combatting Disinformation in a Competitive Information Environment

Moderator: Austin Branch, IPA



Panelists



Lynne Patrick

- Technical Director, 16th Air Force and AFCYBER



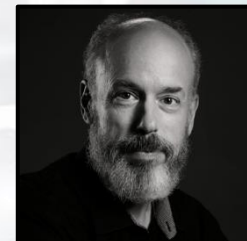
SES Rob Bussian

- Dir, Cyber and Strategic Enabling Concepts, SAF/CDM



LTG(R) Ed Cardon

- UMD Applied Research Lab for Intel & Security
- Former Commander, Army Cyber Command



Bob Pearson

- Social Media Expert
- Former Member, Defense Science Bd



Dr Brian Pierce

- UMD Applied Research Lab for Intel & Security
- Former Director, DARPA Info Innovation Office



Joe Kelly

- Pres, PointWeaver
- Technical Lead, Phoenix Challenge



Connecting People, Ideas and Solutions Globally

The Future of U.S. Military Superiorityin The Digital Theater

The Lukewarm War Requires New Models, Techniques & Tools

Adversaries employ cyber, disinfo and the best of Hollywood to deceive and shape us

Where to Build? -- The Joint Information Warfare Engineering Laboratory

Harness best of private and public sectors + academia into a continual offering of new solutions
Identify the most innovative digital experts, develop new models, create a new pipeline of solutions

Private Sector Approaches Inspire New Public Sector Solutions

A Belt & Road market-based taxonomy, a new platform to create thousands of videos via one person, how to use search to outsmart autocrats, how to analyze and shut down proxy networks, how to know who in a diaspora is worth learning more about

Develop New Intelligence Capabilities via Open Source Media + Dark Web

New algorithms, machine learning training sets, AI tools leverage all publicly available data and combine with knowledge gained via TOR scraping mechanisms and more
Bad actors copy the private sector, but won't be able to copy us.....they'll have to catch up

Employ best of Psychological Modeling with Storytelling

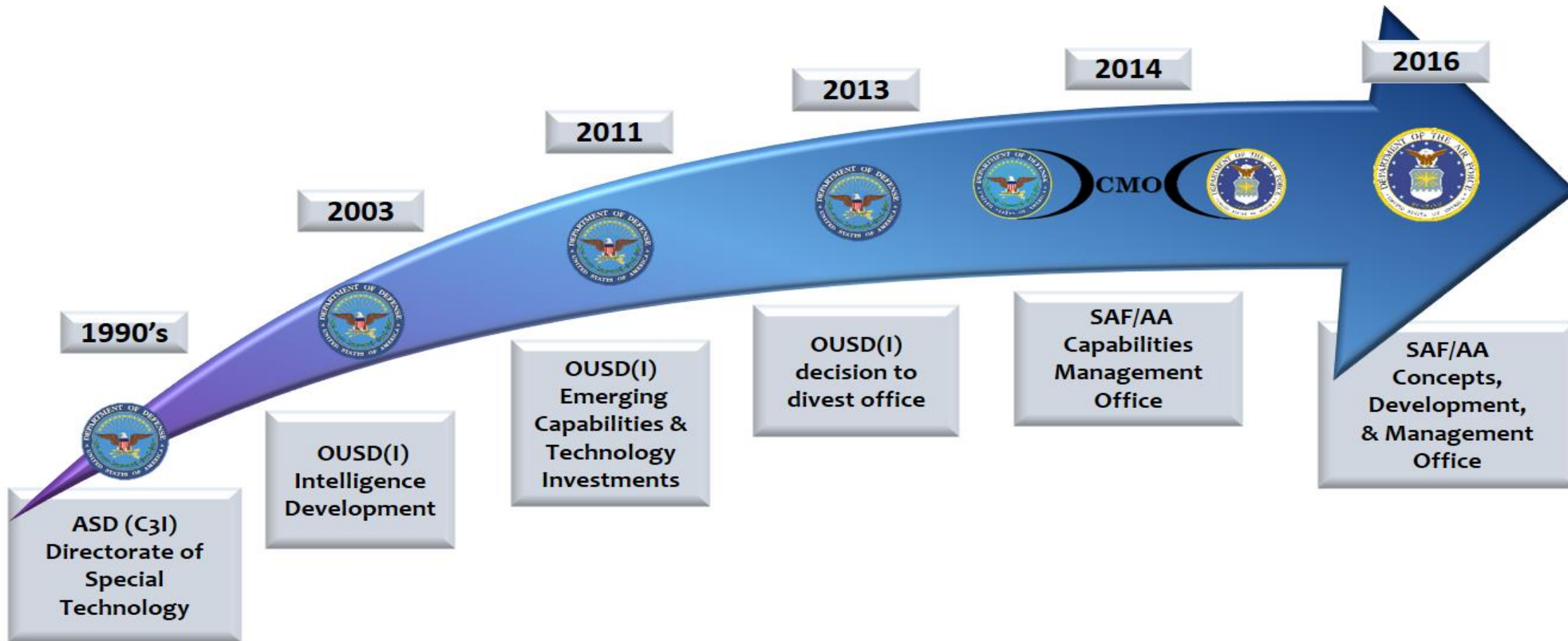
Adversaries use asymmetric warfare to numb us, reshape us, yet we can outthink and outmanuever them
We know how citizens learn over years/decades and can leapfrog the basic techniques of today's bad actor



SAF-AA/Concepts, Development, & Management



Enduring mission: To develop capabilities that meet unique operational needs



Achieved through: Concept identification, opportunity development, & problem solving



SAF-AA/Concepts, Development, & Management



SAF/AA CDM Mission and Partnerships

Activities in support of Operations in the Information Environment

Perspective regarding 'Countering Disinformation'

Strengthening U.S. Cognitive Security and Operations in the Information Environment

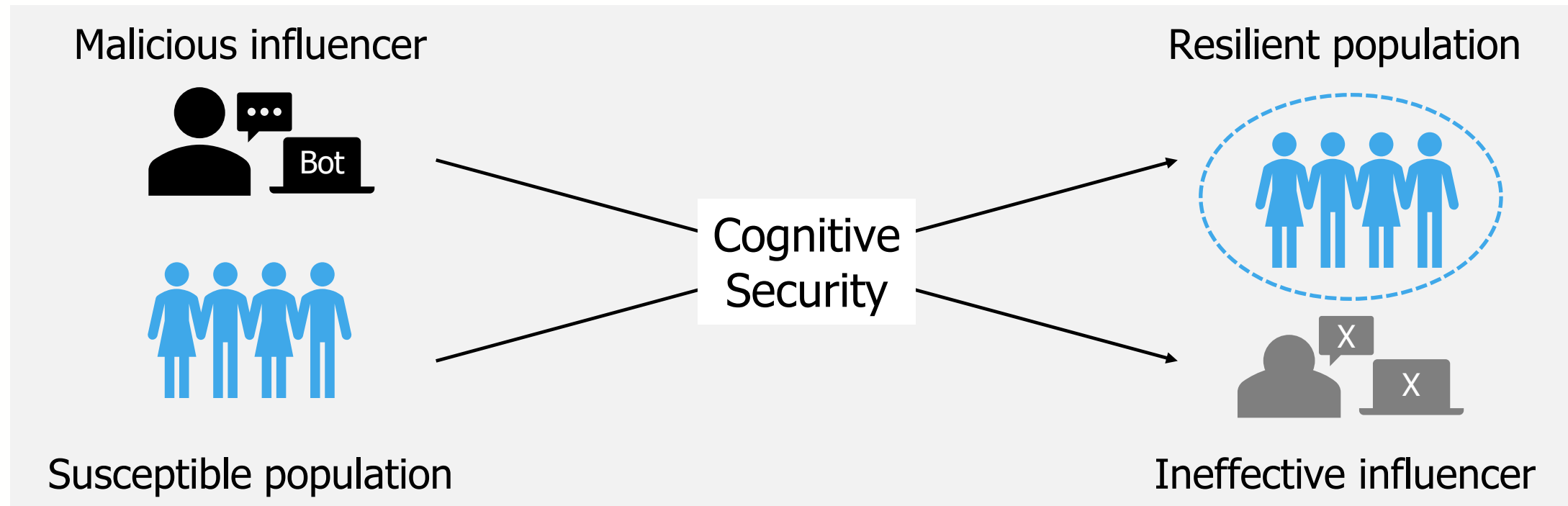
Dr. Brian M. Pierce and LTG(R) Ed Cardon

Applied Research Laboratory for Intelligence and Security (ARLIS)

29 October 2020



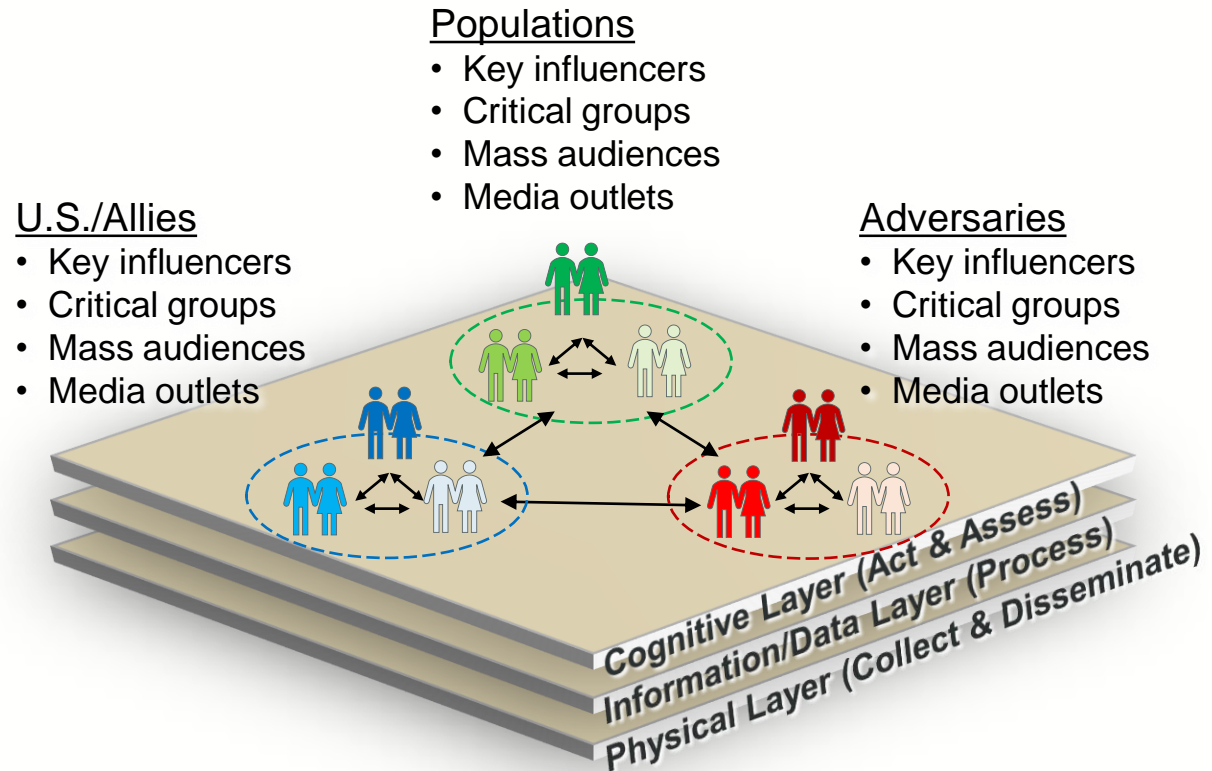
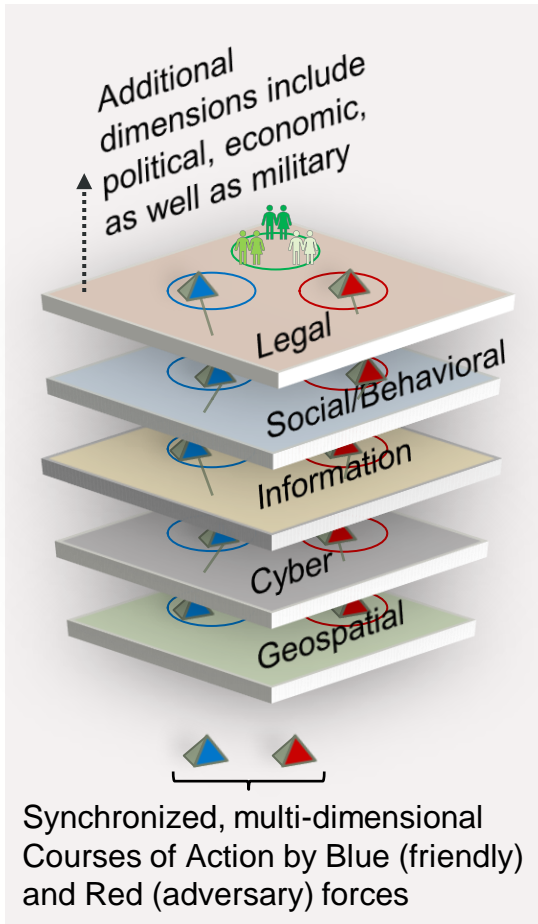
Cognitive Security (CogSec)



Malicious influencers include insider threats

Information Environment (IE)

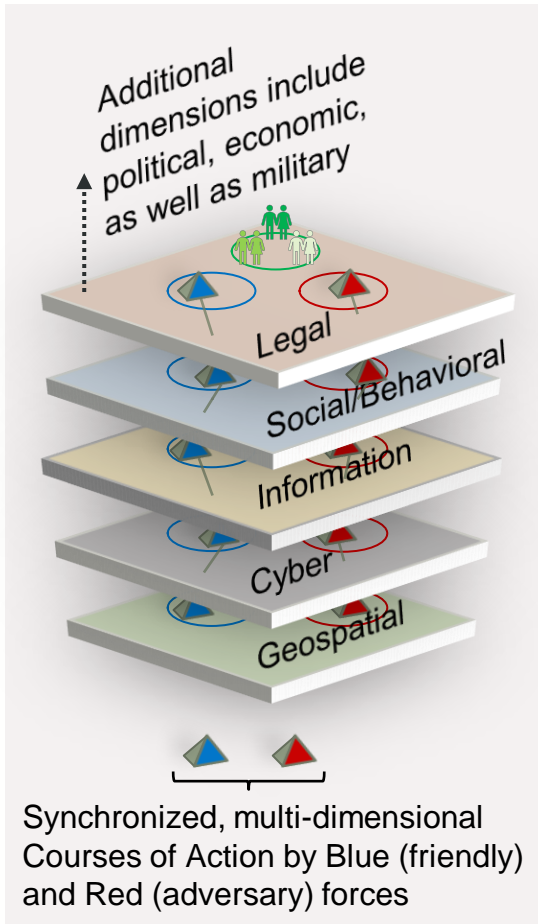
Multi-dimensional operational space



On-/off-line Information Environment
(within context of larger multi-dimensional operational space)

Operations in the Information Environment (OIE)

Multi-dimensional operational space



Data
Disinformation
and Noise

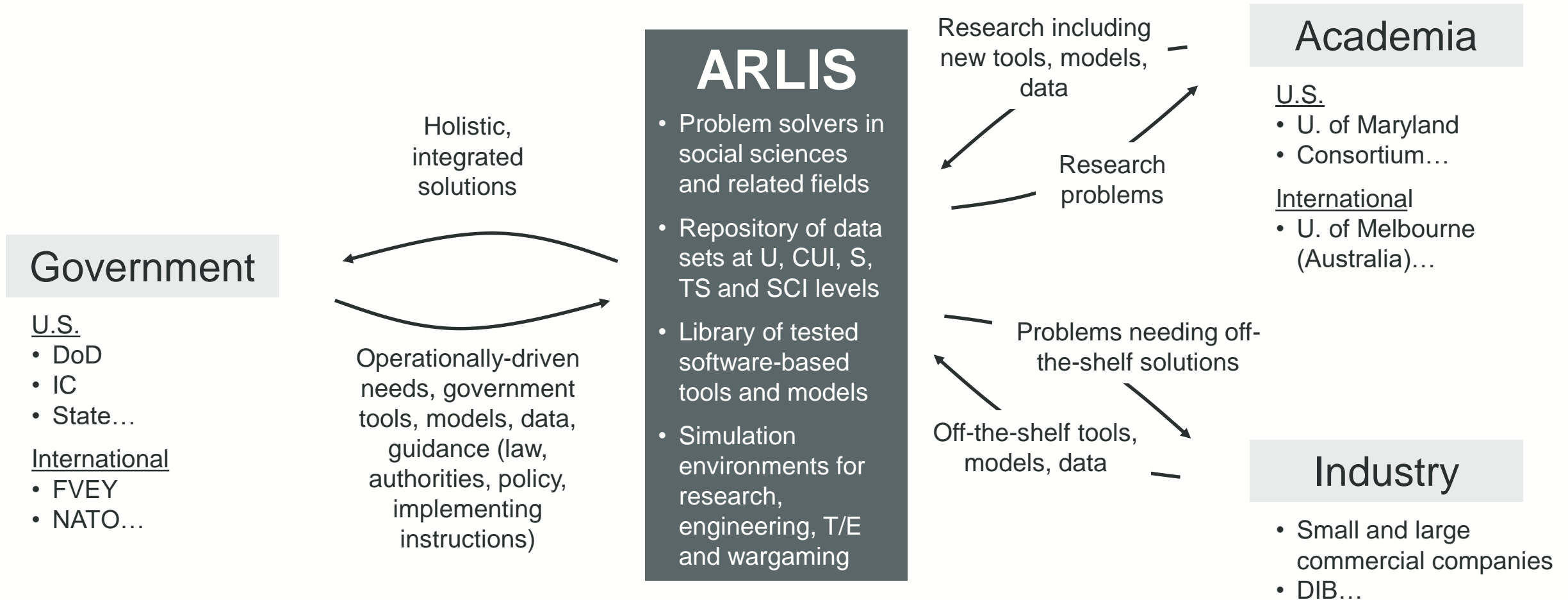
Make sense of the operational space

Take action in the operational space



Decision
maker

ARLIS is the premier strategic UARC for novel sociotechnical solutions that overcome hard national security challenges



CSPG reduces risk on solutions to CogSec/OIE challenges before their use in the real world

CogSec/OIE challenges, e.g.:

- How to measure effectiveness and consequences of a proposed capability?
- How to detect and counter narratives in social media streams against key metrics?
- How to create an influence campaign to achieve a specific outcome? (future)

Current path

**ARLIS
Cognitive
Security
Proving
Ground**

Attempt to overcome challenges in the real world, or “in the wild”

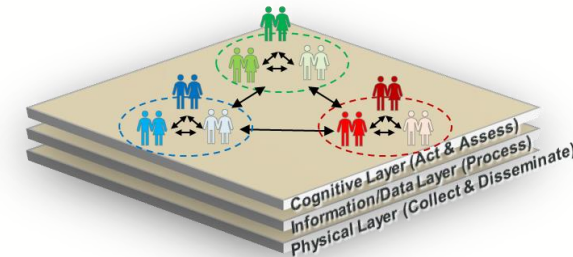
Reduce risk on overcoming challenges before use in the real world

Experiments/
simulations/
test and
evaluation in
a secure,
controlled
environment

Groups of
real people

Several real
people and
many bots
(future)

Large numbers
of bots (future)



Exemplary CogSec/OIE use cases for CSPG

Operational Validation

Measure effectiveness & consequences of a proposed action (e.g., exploit frustration with frozen apps to encourage specific user actions)

ARLIS Approach

- Controlled human subjects experimentation provides baseline data on individual and small-group responses to action
- Experimental results combine with existing datasets to inform model-building
- Model to simulate population-scale results; iterate versions of action until desired impact is achieved
- Test final proposal with human subjects to confirm ground truth

Research and Experimentation

Evaluate new CogSec tools (e.g., detect and counter “weaponized” narratives in social media streams) against key metrics

ARLIS Approach

- Game-based test environment integrates live participants with simulated agents; “slider” function allows varied human/agent ratios
- Multimedia stream provides information (and malinformation) relevant to goals
- Automatically capture metric-relevant behaviors; SME and automated evaluation provides full analysis and interpretation
- Full data curation for reproducibility

Full Campaign Design (future)

Create a campaign to achieve a specific outcome (e.g., reduce foreign and local support for a terrorist group)

ARLIS Approach

- Dataset library and focused expts used to model target populations
- ‘Prior actions’ dataset combines with simulations to generate action proposals
- Full Live/Virtual/Constructive (LVC) simulation used to test multiple actions alone and in combination, measuring both intended and unintended impacts
- Results feed into fully validated campaign recommendations

CSPG goal to simulate Information Environment using a flexible Live-Virtual-Constructive (LVC) architecture

Populations

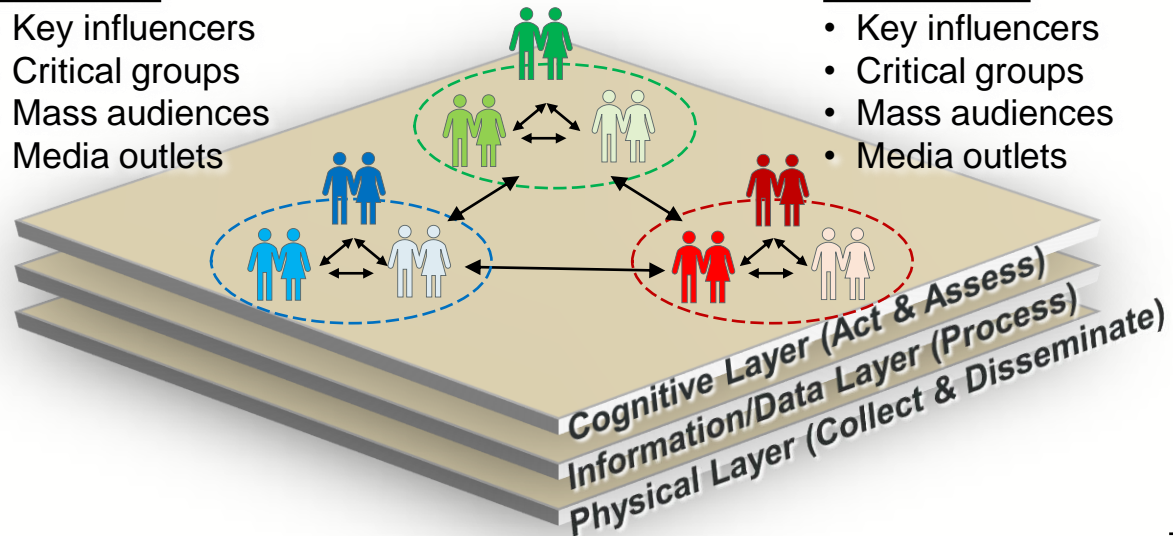
- Key influencers
- Critical groups
- Mass audiences
- Media outlets

U.S./Allies

- Key influencers
- Critical groups
- Mass audiences
- Media outlets

Adversaries

- Key influencers
- Critical groups
- Mass audiences
- Media outlets

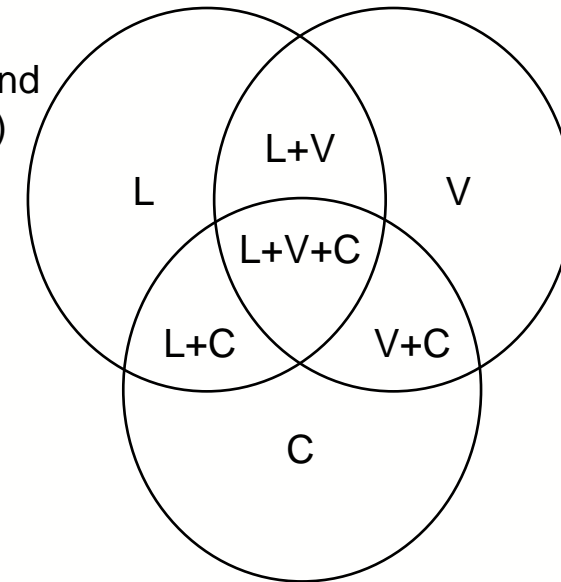


On-/off-line Information Environment (IE)
(within context of larger multi-dimensional
operational space)

Different combinations of Live, Virtual and Constructive for
R&D, test/evaluation and wargaming in a simulated IE

Live (L)
(Real people and
real systems)

Virtual (V)
(Real people and
simulated systems)



Constructive (C)
(Simulated people and
simulated systems)





APPLIED RESEARCH LABORATORY FOR
**INTELLIGENCE
AND SECURITY**

Phoenix Challenge 2.0



- ARLIS and Information Professionals Association (IPA) are Reviving the **Premier Information Operations Conference**
- **Dates: Feb/Mar 2021** as a lead-in to US Central Command's Worldwide IO Conference
- **One Day UNCLASSIFIED Online Event**
- Plenary Sessions and Tracked Panels with Breakouts for Discussion
- **Draft Topics:**
 - Global Competition with Peer Competitors;
 - Strategic Information Effects;
 - Risk Based Approaches to Insider Threat and Acquisition Security;
 - Commercial Technology Trends and Operational Support Tools
- Details will be posted at: <https://information-professionals.org> and <https://arlis.umd.edu>



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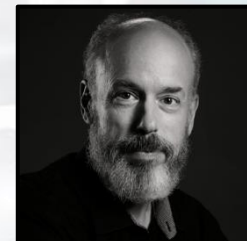
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Connecting People, Ideas and Solutions Globally



Alamo ACE 2020



PROFESSIONAL ENGAGEMENT

SAFEX

Collaboration **Innovation** Integration

ACHIEVING INFORMATION SUPERIORITY

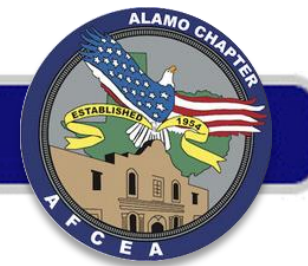
Alamo ACE
November 16-19 2020



— Enabling Decisive Action Across All Domains —



Alamo AFCEA



Thank you for attending – have a great day!

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