

SPECIAL  
COMPETITIVE  
STUDIES  
PROJECT



## WELCOME PACKET

Project on  
**Artificial Intelligence, Human-Machine Teaming, and  
the Future of Intelligence Analysis**

### Workshop 1: The Art of the Possible

#### AUSTRALIA

DAY 1	DAY 2
November 30	December 1
0800 – 1200	0800 – 1230

#### UNITED STATES

DAY 1	DAY 2
November 29	November 30
1600 – 2000	1600 – 2030

### TABLE OF CONTENTS

SCSP Welcome Statement	1
ASPI Welcome Statement	2
Project Purpose	3
Participants	4
Agenda	6
Discussion Paper	8
Logistical Details	15

## SCSP WELCOME STATEMENT

The Special Competitive Studies Project (SCSP) is a bipartisan, not-for-profit initiative with the mission to make recommendations to strengthen America’s long-term competitiveness as artificial intelligence (AI) and other emerging technologies are reshaping national security, economy, and society. We want to ensure that America is positioned and organized, in coordination with its allies, to win the techno-economic competition between now and 2030, the critical window for shaping the future.

SCSP is inspired by the Rockefeller Special Studies Project (SSP), launched in 1956 by Nelson Rockefeller and led by Dr. Henry Kissinger. In the midst of the Cold War, the SSP brought together some of the United States’s leading thinkers to study the major problems and opportunities confronting the nation, restore a strong bipartisan national security strategy, and renew American leadership. The legacy of the Rockefeller Special Studies Project shaped the Eisenhower administration’s policies and both parties’ 1960 presidential campaigns.

SCSP also builds on the work of the National Security Commission on Artificial Intelligence (NSCAI), which concluded its congressionally-mandated work in October 2021. NSCAI made recommendations to the President and Congress to “advance the development of artificial intelligence, machine learning and associated technologies to comprehensively address the national security and defense needs of the United States.”

Our work is divided into six panels: Foreign Policy, Intelligence, Defense, Economy, Society, and Future Technology Platforms. SCSP’s panels work to identify opportunities for the United States to renew its national competitiveness, recharge its historic optimism and rally fellow democracies by defining major problems, clarifying the nation’s purpose and developing frameworks for action.

### SCSP LEADERSHIP

Eric Schmidt  
Chair

Ylli Bajraktari  
CEO

### SCSP BOARD OF ADVISORS

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Nadia Schadlow

William “Mac” Thornberry

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Senior Director

Katherine Kurata  
Associate Director

Meaghan Waff  
Associate Director

Ylber Bajraktari  
Senior Policy Advisor

## ASPI WELCOME STATEMENT

Established in 2001, the Australian Strategic Policy Institute (ASPI) is an independent, non-partisan think tank that produces expert and timely advice for Australian and global leaders. Our mission is to contribute in concrete and realistic ways to addressing Australia's short and long-term strategic and defence challenges. Under the terms of our Charter, ASPI's aims are to:

- Provide timely, data driven policy-relevant research and analysis to better inform Government decisions and public understanding of strategic and defence issues;
- Nourish and improve public debate and understanding of strategic and defence issues, as an important long-term investment in Australia's security; and
- Educate and develop professional strategic policy expertise in Australia, inside and outside of Government.

Our work spans a range of geographic and thematic research programs, including: Defence, Strategy and National Security; Cyber, Technology and Security; China; the Pacific; Statecraft and Intelligence; Climate and Security Policy; Counterterrorism and the Northern Australian Strategic Policy Centre. Across these programs, ASPI analysts work at the intersection of security, technology and policy to identify and define emerging challenges and to develop purposeful, data-driven policy advice.

ASPI is an authoritative contributor to Indo-Pacific strategic policy and a recognised and authoritative Australian voice in international discussions on defence, national security, cyber, technology and foreign interference issues.

### ASPI LEADERSHIP

Gai Brodtmann  
Chair

Justin Bassi  
Executive Director

### ASPI COUNCIL

Hon. John Anderson AC

James Brown

Hon. Michael Keenan

### ASPI STAFF

Dr. Alexandra Caples  
Director

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Karly Winkler  
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Jocelinn Kang  
Technical Specialist

Albert Zhang  
Analyst

Jacinta Keast  
Analyst

## PROJECT PURPOSE

The partnership between SCSP and ASPI is an initiative focused on enabling the integration of artificial intelligence (AI) into the US and Australian intelligence communities. The project aims to discuss:

- (1) **The Utilization of AI Capabilities for Intelligence Collection:** Understand the potential changes AI, especially GenAI, might bring to all-source intelligence analysis. This includes considering how AI could modify existing workflows and decision-making processes.
- (2) **The Role of AI for Analytical Production:** Look into the possible opportunities and challenges AI might introduce in various stages of intelligence analysis, including data collection, concept development, review, and dissemination.
- (3) **Strategies for Joint AI Adoption and Utilization:** Identify ways for US and Australian intelligence agencies to deepen intelligence sharing in the age of AI by using tools and platforms to improve speed, scale, and efficiency.

The final outcome will be a detailed report providing specific recommendations for employing AI in the intelligence operations of both countries in the near-term.

### OPENING WORKSHOP

The inaugural workshop of this initiative, to be held on November 30th (Australia time) / November 29th (Washington, D.C. time), will assess the current application of AI within intelligence analysis and the trajectory of both technology and its further application. The three main objectives of the inaugural workshop are:

- (1) Discuss current AI adoption efforts for the Intelligence mission;
- (2) Demonstrate concrete examples of AI and HMT that exist in the private sector and could enhance the Intelligence mission; and
- (3) Build understanding for deepening of intelligence cooperation in the age of AI.

Structured around six sessions chaired by SCSP and ASPI senior staff, the workshop convenes a select group of practitioners and experts with specialized knowledge in AI and its applications in intelligence analysis. Their expertise is expected to greatly inform nuanced, actionable recommendations for adopting AI in US and Australian intelligence operations. Each session will open with framing remarks from lead panelists, who will draw on their field and industry experience to kick-start the conversation. However, all participants are encouraged to join the discussions, with the aim of fostering an enriching and insightful dialogue that lays the groundwork for advancing research in the field of intelligence analysis.

## **PARTICIPANTS** \*TO BE CONFIRMED

### **TECHNOLOGISTS**

**James Cooper**  
Principal Engineer  
Agent Oriented Systems

**Greg Levesque**  
CEO & Co-founder  
Strider

**Chris Poulter**  
Founder & CEO  
OSINT Combine

**Jonathan Ross**  
CEO  
Groq

**Dr. Jason Signolet**  
Director of Data Science  
Fivecast

**Geoff Kahn**  
Senior Counselor  
Palantir

**Dr. Andrew Lucas**  
Founder & Managing Director  
Agent Oriented Systems

**Krista Rasmussen**  
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**Kuba Kabacinski**  
Founder & CEO  
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**G. Andrew Otterbacher**  
Director, Global Strategic Partnerships  
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**Jonathan Reiber\***  
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**Michael Sellitto**  
Head, Geopolitics & Security Policy  
Anthropic

### **THOUGHT LEADERS**

**Dr. Zena Assaad**  
Senior Research Fellow  
ANU College of Engineering, Computing &  
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**Dennis Gleeson**  
Former Director of Strategy  
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**Dr. Steve Rieber**  
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Co-Chair of Commonwealth Artificial  
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**Dr. Jon Whittle\***  
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CSIRO's Data61

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Zeno Hub  
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**Bob Gourley**  
OODLA LLC  
Former Chief Technology Officer  
Defense Intelligence Agency

**Dr. Jie Lu AO**  
Director  
Australian AI Institute  
University of Technology Sydney

**Dr. Pedro A. Rodriguez**  
Senior Machine Learning Researcher  
Johns Hopkins University  
Applied Physics Laboratory

**Dean Soules**  
Ginsoko Consulting  
Former Director, AIM Initiative  
Office of the Director of National Intelligence

**Glenn Gaffney\***  
Noble Reach Foundation  
Former Director of S&T  
Central Intelligence Agency

**Lt. Gen. Michael Groen**  
Former Director  
Joint Artificial Intelligence Center  
United States Department of Defense

**Dr. Barton L. Paulhamus**  
Chief, Intelligent Systems Center  
Johns Hopkins University  
Applied Physics Laboratory

**Dr. Richard de Rozario**  
Director of Analysis  
Hunt Laboratory for Intelligence Research  
University of Melbourne

**Professor Tim van Gelder\***  
Director  
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## AUSTRALIAN GOVERNMENT OFFICIALS

### Fergus Hanson

First Assistant Director-General  
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The Office of National Intelligence

### Tom Nicholls

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### Amita Muthalaly

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The Office of National Intelligence

### Patrick Kennedy

Analyst  
Cyber & Critical Technology Intelligence Centre  
The Office of National Intelligence

## UNITED STATES GOVERNMENT OFFICIALS

### Dr. John Bieler

Director  
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### Wayne McCool\*

Associate Deputy Director  
Analysis  
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### Michaela J. Mesquite

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### Nand Mulchandani

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National Geospatial-Intelligence Agency

### Lakshmi Raman

Director  
Artificial Intelligence  
Central Intelligence Agency

# AGENDA

DAY 1

AUSTRALIA US

**THU 11/30 WED 11/29**

0800 - 0810 1600 - 1610

Welcoming Remarks & Scene Setter

**Chairs:** Chip Usher, SCSP & Dr. Alexandra Caples, ASPI

0810 - 0900 1610 - 1700

## SESSION 1

**The State of Play: An Insider's View of AI & Intelligence Analysis**

US and Australian government officials discuss the current practical applications and challenges of AI in intelligence analysis.

**Chair:** Dr. Alexandra Caples, ASPI

### Panelists:

#### United States

- Dr. John Bieler, ODNI
- Lakshmi Raman, CIA

#### Australia

- Tom Nicholls, ONI

0900 - 1000 1700 - 1800

## SESSION 2

**Separating Hype from Reality: An Expert View of Current AI Capabilities**

Experts from the US and Australia's private and nonprofit sectors evaluate the state of AI for analysis, debunking myths and establishing expectations.

**Chair:** Chip Usher, SCSP

### Panelists:

#### United States

- Geoff Kahn, Palantir
- Greg Levesque, Strider
- Krista Rasmussen, C4ADS

#### Australia

- Dr. Jason Signolet, Fivecast
- Chris Poulter, OSINT Combine

1000 - 1100 1800 - 1900

## SESSION 3

**Charting the Course Ahead: What's Possible in the Next Era of AI?**

Structured discussion on quick-wins, future opportunities, and obstacles to progress in the evolving landscape of AI for intelligence analysis.

**Chair:** Dr. Alexandra Caples, ASPI

### Panelists:

#### United States

- Nand Mulchandani\*
- Jonathan Reiber\*, OpenAI
- Michael Sellitto, Anthropic
- Jonathan Ross, Groq
- G. Andrew Otterbacher, Scale

#### Australia

- Distinguished Professor Jie Lu  
AO, UTS
- Dr. Zena Assaad, ANU

1100 - 1200 1900 - 2000

**SESSION 4**

**Brainstorm Use Cases**

Structured discussion on priority use cases for AI in the analytic workflow and preconditions and pathways to implementation. Use cases might include monitoring & querying data, hypothesis formation, forecasting and simulation, assessment production and assessment 'red teaming'.

**Chairs:** Chip Usher, SCSP & Dr. Alexandra Caples, ASPI

**Panelists:**

**United States**

- Dr. Steve Rieber, IARPA
- Dennis Gleeson, Former CIA

**Australia**

- Karly Winkler, ASD
- Tom Nicholls, ONI

**DAY 2**

**FRI 12/1 THU 11/30**

0800 - 0810 1600 - 1610

**Welcoming Remarks & Highlights from Day 1**

**Chairs:** Chip Usher, SCSP & Dr. Alexandra Caples, ASPI

0810 - 0910 1610 - 1710

**SESSION 5**

**Behavioral Challenges & Considerations**

Addressing the behavioral challenges in effectively using AI tools in intelligence analysis.

**Chair:** Dr. Alexandra Caples, ASPI

**Panelists:**

**United States**

- Lt. Gen. Michael Groen, Former JAIC
- Anna Knack, CETaS

**Australia**

- Associate Professor Tim Van Gelder, Hunt Lab\*
- Dr. Jason Signolet, Fivecast

0910 - 1010 1710 - 1810

**SESSION 6**

**Technical Challenges & Considerations**

Delving into the technical challenges of incorporating AI in intelligence analysis workflows.

**Chair:** Chip Usher, SCSP

**Panelists:**

**United States**

- Dr. Pedro A. Rodriguez or Dr. Barton L. Paulhamus, JHU/APL
- Dean Souleles, Former ODNI
- Bob Gourley, Former DIA

**Australia**

- Dr. Andrew Lucas, AOS
- Glen Schafer, TAS

1010 - 1030 1810 - 1830

**Break**

1030 - 1130 1830 - 1930

**Concluding Remarks and Next Steps**

Summary of key insights, priorities and focus areas for Workshop 2.



## DISCUSSION PAPER

Not long ago, “artificial intelligence (AI)” evoked sci-fi fantasies of androids gone rogue. But technologies like machine learning (ML) and natural language processing (NLP) have advanced at a head-spinning pace. The age of AI is here. Already AI-powered machines excel at games, medical diagnosis, and standardized tests. Moreover, specialized AI models now perform tasks in domains like finance, science, marketing, data management, research, game development, healthcare, and more.<sup>1</sup> In the field of national intelligence, pilot projects deploy AI for select analytical functions, experiments, and other discrete tasks, though not yet at scale or integrated across the full analytical workflow.<sup>2</sup> With continuing breakthroughs, the integration of expansive AI capabilities into the broader craft of intelligence analysis seems imminent. But what form will this take?

Imagine an analyst at CIA Headquarters at Langley who employs generative AI to forecast Russia's next moves in Ukraine, or to unearth illicit Chinese funding in Taiwanese media, highlighting an emerging influence network before Taiwan's elections. She's no longer overwhelmed by data; instead, she employs multiple AI-powered tools to efficiently extract crucial insights with the computational might at her disposal. And this analyst doesn't solely rely on AI; she critically assesses its predictions,<sup>3</sup> injecting her own tacit knowledge,<sup>4</sup> common

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<sup>1</sup> David Silver, et al., [Mastering the Game of Go Without Human Knowledge](#), Nature (2017); [Machine Learning's Potential to Improve Medical Diagnosis](#), GAO (2022); [AlphaFold Reveals the Structure of the Protein Universe](#), DeepMind (2022); [Introducing BloombergGPT](#), Bloomberg Professional Services (2023); [Galactica](#), Meta (2023); Daniil A. Boiko et al, [Emergent autonomous scientific research capabilities of large language models](#), ArXiv (2023); [Copy.ai](#) (2023); [Data Engine](#), Scale AI (2023); [Elicit](#), Ought (2023); [Scenario](#) (2023); A.J. Ghergich, [How Automation Is Transforming Healthcare Jobs](#), Forbes (2021); [Awesome Generative AI](#), Github (2023).

<sup>2</sup> Examples include: NGA's partnership with Impact Observatory to produce AI-generated maps at almost real-time, NGA's Source Maritime Automated Processing System (SMAPS) Program, IARPA's “REASON” Program to develop an intelligence analysis assistant plug-in, and the CIA's deployment of GenAI chatbot. Jeanne Chircop, [AI Revolutionizes Mapping Updates, Accuracy](#), National Geo-Spatial Intelligence Agency (2023); [NGA Puts Machine Learning to Work to Speed Mission. Further Research](#), National Geospatial Intelligence Agency (2022); [REASON: Rapid Explanation, Analysis and Sourcing Online](#), Intelligence Advanced Research Projects Activity, Office of the Director of National Intelligence (2023); Brandi Vincent, [CIA to Investigate How Generative AI \(like ChatGPT\) Can Assist Intelligence Agencies](#), DefenseScoop (2023).

<sup>3</sup> Ajay Agrawal, Joshua Gans & Avi Goldfarb, [Prediction Machines: The Simple Economics of Artificial Intelligence](#), Harvard Business Review Press at 53–54, 65–69 (2018).

<sup>4</sup> Polanyi argued there's tacit knowledge beyond what we can articulate, a view Autor extended in discussing labor automation challenges. However, Hosanagar suggests data learning could capture this implicit human knowledge. Michael Polanyi, [The Tacit Dimension](#), University of Chicago Press at 4 (2009); David Autor, [Polanyi's Paradox and the Shape of Employment Growth](#), National Bureau of Economic Research at 8 (2014); Kartik Hosanagar, [A Human's Guide to Machine Intelligence: How Algorithms Are Shaping Our Lives and How We Can Stay in Control](#), Viking at 113–114 (2019).

sense,<sup>5</sup> and moral compass<sup>6</sup> to steer AI past its inevitable quirks<sup>7</sup> and make nuanced decisions to adapt to surprises,<sup>8</sup> and manage sensitive scenarios<sup>9</sup> or non-routine situations<sup>10</sup> where AI may otherwise fall short. This vision epitomizes the promise of "augmented intelligence" — seamlessly combining human knowledge and creativity with machine scale and precision for a sum greater than its parts.<sup>11</sup>

The integration of machines in intelligence analysis goes beyond just responding to *ad-hoc* queries through GPTs; it represents a holistic fusion of human expertise with advanced machine capabilities. This integration is multi-dimensional, blending technological elements like interface design, ML, and NLP with human-centric factors such as user experience, decision-making, and cognitive psychology.

At the core of machine integration in intelligence analysis are Human-Machine Collaboration (HMC) and Human-Machine Teaming (HMT). These concepts blend three elements: the human analyst, the machine, and their interactive dynamics. Whereas HMC aims to optimize cognitive tasks (e.g., decision-making), HMT focuses on more effectively executing complex analytical tasks (e.g., sorting through vast amounts of data, pattern recognition, and predictive analysis). Both HMC and HMT are not rigidly distinct nor neatly separable in the field of intelligence analysis. Their applications often overlap, with advanced systems incorporating elements of both. For instance, HMC might involve an AI assistant that aids in refining analytical models based on human input, while HMT could entail a more collaborative effort where analysts and AI systems jointly process and analyze intelligence data. This integration maximizes the strengths of both humans and machines, leading to more accurate, timely, and comprehensive analytic outcomes.

In this paradigm, technologies like ML and NLP transcend their traditional tool roles, becoming active collaborative partners. They empower analysts to delegate tasks, consider machine-generated suggestions alongside human insights, and even permit machines to update or even define objectives. This elevates their role from simple decision-support to active collaborators. Here, the unmatched computational velocity and capacity of machines, including their ability to systematize and derive insights from vast datasets, complement enduring human analytical aptitude. As a result, this symbiosis is better positioned to deliver relevant,

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<sup>5</sup> Gary Smith, [The AI Delusion](#), Oxford University Press at 34 (2018); Melanie Mitchell, [Artificial Intelligence: A Guide for Thinking Humans](#), Farrar, Straus & Giroux at 104, 129 (2019).

<sup>6</sup> Melanie Mitchell, [Artificial Intelligence: A Guide for Thinking Humans](#), Farrar, Straus & Giroux at 104, 129 (2019).

<sup>7</sup> Meredith Broussard, [Artificial Unintelligence: How Computers Misunderstand the World](#), MIT Press at 135 (2018); Gary Smith, [The AI Delusion](#), Oxford University Press at 12 (2018).

<sup>8</sup> Ajay Agrawal, Joshua Gans & Avi Goldfarb, [Prediction Machines: The Simple Economics of Artificial Intelligence](#), Harvard Business Review Press at 102 (2018).

<sup>9</sup> Walter Isaacson, [Leonardo da Vinci](#), Simon & Schuster Audio at 436 (2017).

<sup>10</sup> "Automation will handle a lot of the mundane work; it won't handle the edge cases. The edge cases require hand curation. You need to build in human effort for the edge cases, or they won't get done." Meredith Broussard, [Artificial Unintelligence: How Computers Misunderstand the World](#), MIT Press at 176–177 (2018).

<sup>11</sup> James Wilson and Paul R. Daugherty, [Collaborative Intelligence: Humans and AI Are Joining Forces](#), Harvard Business Review (2018).

contextualized, and actionable intelligence engineered to address the distinct challenges of the 21st century.

Table 1 offers a clear breakdown of AI's potential roles in intelligence analysis: as Autonomous Agents, they independently handle tasks; as Teammates, they collaborate closely with analysts; and as Advisors, they provide insights to support human decision-making. This taxonomy showcases the dynamic collaboration between humans and AI-enabled tools, adapting to the task's complexity and nature, and encompassing everything from routine interactions to advanced cognitive collaborations.

**Table 1. Matrix of AI-Human Collaborative Roles in Intelligence Analysis  
Taxonomy of Human and Machine Rules**

	Type of AI Relationship		
	Autonomous Agent	Teammate	Advisor
Scanning & Search	<p><b>Prioritization &amp; Alerts</b> AI continuously scans collected data, provides alerts, and prepares Traffic Summaries and short Executive Updates with basic assessments.</p>	<p><b>Research Assistant</b> AI aids in the data management aspects of intelligence analysis, such as translation, sorting, and presentation, freeing analysts to focus on complex tasks. Able to perform complex searches across multiple unstructured datasets at various classification levels.</p>	<p><b>Analytical Support</b> AI continuously alerts analysts to newly-acquired datasets, automatically prepares analytic requirements to task collectors, and recommends sources of outside expertise.</p>
Conceptualization & Production	<p><b>Independent Analysis</b> AI performs the sorting and analysis of intelligence data and prepares draft assessments that analysts then review for verification and deeper insights.</p>	<p><b>Machine-Enabled Assessments</b> AI and analysts jointly conceptualize and prepare intelligence assessments, with machines suggesting outlines, creating initial drafts and accompanying graphics, and performing SATs where applicable</p>	<p><b>Synthetic Mentor</b> AI suggests possible lines-of-analysis and confidence levels based on real-time data and customer requirements. Prepares read-in materials for new team members. AI coach provides ongoing professional training at the desktop and recommends outside content for substantive knowledge building.</p>
Delivery & Evaluation	<p><b>Autonomous Analysis</b> AI independently conducts all intelligence analysis tasks and is trusted to provide output to customers, evolving its techniques through self-learning and customer feedback.</p>	<p><b>Customer Engagement Manager</b> AI tracks customer requirements, readership, and feedback and provides insights to analysts as they plan and prepare assessments. AI recommends dissemination lists, tailored to customers' access and NTK. AI automatically prepares REL and Unclassified versions to support government strategic messaging.</p>	<p><b>Synthetic Editor</b> AI reviews and edits analytic products for adherence to tradecraft standards, legal requirements, classification, and customer requirements. Provides senior managers with data-driven summaries of customer engagement across issues areas to inform resource decisions; and identifies trends in tradecraft performance for the workforce.</p>

The challenge in optimizing human-machine systems in intelligence analysis lies in the rapid evolution of AI and the ambiguity in task allocation. Key questions revolve around determining the most effective distribution of tasks—identifying which should be automated and which

require human insight.<sup>12</sup> This requires a deep understanding of the demands of both routine and complex tasks, and where human-machine systems are most effective, such as in data processing and real-time intelligence.

Table 2 provides insight into the impact of these systems across various analytic functions for all-source analysts. It shows that tasks such as data aggregation, sorting, and foreign language translation greatly benefit from AI, emphasizing efficiency and accuracy. However, for more complex analytical processes like identifying underlying driving forces and diagnostic techniques, there's a moderate impact, highlighting the need for human expertise and critical analysis. The table also suggests that in functions demanding ethical decision-making and deep contextual analysis, the role of human judgment remains paramount.

**Table 2. Impact of Human-Machine Systems on All-Source Analytic Functions**

Analytic Functions	Most Significant	High	Moderate	Low	Least Significant
Data Aggregation & Sorting	✓				
Foreign Language Translation	✓				
Basic Trend Analysis	✓				
Identifying Underlying Driving Forces	✓				
Secondary/Tertiary Implications		✓			
Diagnostic Techniques: Key Assumptions Check		✓			
Diagnostic Techniques: Quality of Information Check		✓			
Diagnostic Techniques: Signposts of Change		✓			
Diagnostic Techniques: Analysis of Competing Hypotheses		✓			
Contrarian Techniques: Devil's Advocacy		✓			
Contrarian Techniques: Team A/Team B		✓			
Contrarian Techniques: High Impact/Low Probability Scenario		✓			
Contrarian Techniques: What If?		✓			
Imaginative Techniques: Brainstorming		✓			
Imaginative Techniques: Outside-In Thinking		✓			
Imaginative Techniques: Red Team Analysis	✓				
Imaginative Techniques: Alternative Futures		✓			
Recalled Reporting Check	✓				
Self-Editing	✓				
Review for Adherence to Analytic Tradecraft Standards	✓				
Analytic Line Reviews		✓			
Customer Feedback Analysis			✓		
Performance Metrics Analysis				✓	
Compliance Audits				✓	
Training and Analyst Development Guide				✓	

<sup>12</sup> Michael F. Rayo et. al., [Frontiers of Human-Machine Teaming: How Human Factors Is Contributing](#), Proceedings of the Human Factors and Ergonomics Society Annual Meeting (2020).

In terms of AI integration, the rapid pace of development in AI technology complicates the pursuit of a sustained competitive edge. For Western intelligence agencies, expedient yet prudent adoption is key. Democracies must keep pace with autocracies like China, which are rapidly advancing AI for defense and security applications to reach the national objective of “intelligentized”<sup>13</sup> warfare, without compromising ethics or over automating contextual analysis which requires human discernment. By thoughtfully leveraging AI's strengths in data processing and real-time insights while preserving human oversight, agencies can maintain strategic advantage. The right collaboration framework maximizes AI's benefits while mitigating risks. Deepening cooperation between the US and Australia would enhance our collective capacity to lead in ethical, advanced AI integration.

Certainly challenges exist, including issues of opacity, potential bias, and building trust to name a few. These are compounded by “hallucinations” in AI processes arising from flawed data sources,<sup>14</sup> inferior data utilization,<sup>15</sup> architecture flaws,<sup>16</sup> misaligned objectives,<sup>17</sup> defective coding strategies,<sup>18</sup> and imperfect decoding representations.<sup>19</sup> For critical scenarios such as nuclear strikes, the inherent risks preclude automation and necessitate full human control. However, in fields like analysis, the right approach can minimize risk. Analysts must feel

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<sup>13</sup> Ryan Fedasiuk, Jennifer Melot & Ben Murphy, [Harnessed Lightning: How the Chinese Military is Adopting Artificial Intelligence](#), CSET at IV, 3, 24, 26 (2021).

<sup>14</sup> E.g., Stephanie Lin, Jacob Hilton & Owain Evans, [TruthfulQA: Measuring how models mimic human falsehoods](#), 60th Annual Meeting of the Association for Computational Linguistics at 3214–3252 (2022); Emily M. Bender et al, [On the dangers of stochastic parrots: Can language models be too big?](#), ACM Conference on Fairness, Accountability, and Transparency at 610–623 (2021).

<sup>15</sup> E.g., Shaobo Li et al, How pre-trained language models capture factual knowledge? a causal-inspired analysis, Association for Computational Linguistics at 1720–1732 (2022); Nikhil Kandpal et al, [Large language models struggle to learn long-tail knowledge](#), International Conference on Machine Learning at 15696–15707 (2023).

<sup>16</sup> E.g., Zuchao Li et al, [Batgpt: A bidirectional autoregressive talker from generative pre-trained transformer](#), ArXiv (2023); Bingbin Liu et al, [Exposing attention glitches with flip-flop language modeling](#), ArXiv (2023); Chaojun Wang & Rico Sennrich, [On exposure bias, hallucination and domain shift in neural machine translation](#), 58th Annual Meeting of the Association for Computational Linguistics at 3544–3552 (2020); Muru Zhang et al, [How language model hallucinations can snowball](#), ArXiv (2023).

<sup>17</sup> E.g., John Schulman, [Reinforcement learning from human feedback: Progress and challenges](#), Berkeley EECS Colloquium (2023); Ethan Perez et al, [Discovering language model behaviors with model-written evaluations](#), Association for Computational Linguistics at 13387–13434 (2023); Jerry W. Wei et al, [Simple synthetic data reduces sycophancy in large language models](#), ArXiv (2023).

<sup>18</sup> E.g., Felix Stahlberg & Bill Byrne, [On NMT search errors and model errors: Cat got your tongue?](#), Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing at 3356–3362 (2019); Ari Holtzman et al, [The curious case of neural text degeneration](#), 8th International Conference on Learning Representations (2020).

<sup>19</sup> E.g., Mengqi Miao et al, [Prevent the language model from being overconfident in neural machine translation](#), 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing at 3456–3468 (2021); Yangyi Chen et al, [Measuring and improving chain-of-thought reasoning in vision-language models](#), ArXiv (2022, 2023); Zhilin Yang et al, [Breaking the softmax bottleneck: A high-rank RNN language model](#), 6th International Conference on Learning Representations (2018).

empowered by AI as trusted “teammates”, not threatened by it as a robotic replacement.<sup>20</sup> By instilling this cultural ethos across the workforce and intelligently accounting for risks, revolutionary cognitive alliances become attainable. Robust oversight protocols, “red team” testing, and governance frameworks can counter biases, security vulnerabilities, and other pitfalls on the path ahead.

Make no mistake, the disruption has already begun as early adopters stake ground and laggards raise alarms. Refusing to adapt is not an option, as the genie of progress won’t return to its bottle; instead, we must purposefully put the ghost back into the machine, blending human insight with technological advance. By synergizing human cognitive strength with the analytical efficiency of AI, we can elevate intelligence analysis to an unprecedented level. This approach will reveal new patterns and identify overlooked risks with greater speed and accuracy. Embracing this shift will prove vital for the US and Australian intelligence communities to predict and deter potential threats before they emerge, thereby contributing to a more competitive posture across all elements of national power.

While change breeds uncertainty, the AI revolution's tide is inexorable, potentially as transformative as past innovations like electricity. Intelligence agencies, alongside governments, businesses, and individuals, now confront the imperative of navigating an era where technology evolves faster than our collective understanding. While some call for temporarily pausing more advanced developments,<sup>21</sup> others emphasize real-world testing first.<sup>22</sup> Many stake out middle ground.<sup>23</sup> Amidst these considerations, fostering discourse on the direction of AI becomes paramount, ensuring that national decision-making is well-informed and reflective of diverse perspectives. This discourse sets the stage for the crucial next step: unified action.

Navigating the rapids ahead demands coordination under a unified vision today. Without this, piecemeal adoption risks disjointed and unequal analytic advancement. Just as diligent governance was crucial for nuclear assets, the same applies for AI. Democracies, and particularly their intelligence apparatuses, must steer this transformation with purpose, lest they tumble into a brave new world.

## **SUGGESTED QUESTIONS TO HELP GUIDE THE DISCUSSION**

1. How are AI tools affecting daily analytic work in the US and Australian intelligence communities, and what challenges and benefits have emerged from using them more broadly?
2. What are some of the most promising HMC and HMT capabilities currently being utilized for analysis in the public, private, and non-profit sectors of the US and Australia?

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<sup>20</sup> Anna Knack, Richard J. Carter and Alexander Babuta, [Human-Machine Teaming in Intelligence Analysis: Requirements for developing trust in machine learning systems](#), CETaS Research Reports at 17 (2022).

<sup>21</sup> [Pause Giant AI Experiments: An Open Letter](#), Future of Life Institute (2023).

<sup>22</sup> Cade Metz, [The ChatGPT King Isn't Worried. but He Knows You Might Be](#), The New York Time (2023).

<sup>23</sup> [Andrew Ng](#), X (2023).




3. As the two countries deepen joint human-machine teaming efforts, what changes may emerge across key capability areas like intelligence gathering, operational responsiveness, resource allocation, or threat assessment by 2030?
4. Separate from capabilities, what core technological milestones do you anticipate being reached in further developing human-machine collaboration and teaming between now and 2030?
5. Over the next 5-10 years, which analytical tasks are poised for significant improvement through AI, and how might HMC and HMT reshape strategic, operational, and tactical intelligence analysis?
6. How might advancing HMC and HMT reshape skills demands and capability requirements for future analysts in our nations?

## RECOMMENDED READING

- [A Decadal Survey of the Social and Behavioral Sciences: A Research Agenda for Advancing Intelligence Analysis: Digest Version](#), The National Academies Press at 15 (2019).
- [A Tradecraft Primer: Structured Analytic Techniques for Improving Intelligence Analysis](#), Central Intelligence Agency (2009).
- Anna Knack, Richard J. Carter & Alexander Babuta, [Human-Machine Teaming in Intelligence Analysis: Requirements for developing trust in machine learning systems](#), CETaS Research Reports at 17 (2022).
- Director of National Intelligence, [Analytic Standards, IC Directive 203](#), Office of the Director of National Intelligence (2015).
- [Human-AI Teaming: State of the Art and Research Needs](#), The National Academies Press (2021).
- John Laird, Charan Ranganath & Davis Samuel Gershman, [Future Directions in Human Machine Teaming Workshop](#), Future Directions Workshop series (2020).
- Kathleen M. Vogel, Gwendolynne Reid, Christopher Kampe & Paul Jones., [The impact of AI on intelligence analysis: tackling issues of collaboration, algorithmic transparency, accountability, and management](#), Intelligence and National Security at 827-848 (2021).
- Margarita Konaev, Tina Huang & Husanjot Chahal, [Trusted Partners Human-Machine Teaming and the Future of Military AI](#), CSET (2021).
- Michael Coole, Deborah Evans & Jennifer Medbury, [Artificial Intelligence and Security Technologies Adoption Guidance Document](#), ASIS (2021).
- Mick Ryan, [Human-Machine Teaming for Future Ground Forces](#), Center for Strategic and Budgetary Assessments (2018).
- [National Security Podcast: ASIS Director-General Paul Symon AO in conversation](#), National Security Podcast (2022).
- Patricia McDermott et. al., [Human-Machine Teaming Systems Engineering Guide](#), MITRE (2018).
- [THE AIM INITIATIVE: Augmenting Intelligence using Machines Increasing insight and knowledge through Artificial Intelligence, Automation, and Augmentation](#), AIM (2017).
- Tim van Gelder, [Analytic Rigour in Intelligence](#), Hunt Lab for Intelligence Research (2021).

## LOGISTICAL DETAILS

UNITED STATES	AUSTRALIA	VIRTUAL
IN-PERSON	IN-PERSON	REMOTE
 <p>SPECIAL COMPETITIVE STUDIES PROJECT</p> <p>SCSP OFFICE</p>	 <p>A S P I AUSTRALIAN STRATEGIC POLICY INSTITUTE</p> <p>ASPI OFFICE</p>	
1550 Crystal Drive, Suite 500, Arlington, VA	Level 2, 40 Macquarie Street, Barton ACT 2600, Australia	Remote participants will receive joining instructions by <b>1700 EST, 27 November</b>
<ul style="list-style-type: none"><li>• Metro: Crystal City Station</li><li>• Parking: \$6/hour, \$23/day</li><li>• Check-in: When you arrive, check in at the front desk for access to our 5th floor suite.</li><li>• POC: Reception or Meaghan Waff (<a href="mailto:mkw@scsp.ai">mkw@scsp.ai</a>)</li></ul>	<ul style="list-style-type: none"><li>• Parking: Wilson Parking 1 Kendrew St or 48 Macquarie St \$4/hour</li><li>• Check-in: When you arrive, check in at the reception desk on the ground floor.</li><li>• POC: +61 2 6270 5100 (Reception)</li></ul>	<ul style="list-style-type: none"><li>• Australia POC: Stephanie Tiller (<a href="mailto:stephanietiller@aspi.org.au">stephanietiller@aspi.org.au</a>)</li><li>• US POC: James Smith (<a href="mailto:jsmith@hillspire.com">jsmith@hillspire.com</a>)</li></ul>