Strategic Multilayer Assessment (SMA) presents:

The Mind-Tech Nexus:

How Will Minds Plus Technology Win Future Wars?

In the 1920s and 30s, German military professionals like the tank commander Heinz Guderian asked how the human factors of shock, creativity, guile, will, daring, and skill could be combined with the technology of their time to win wars. Not just machines, but minds plus machines in dynamic complementarity. How they interface and converge. Using armor *en masse* to surprise an enemy, and radio communications to think and decide faster than an enemy. In May 1940 their *Blitzkrieg*, or lightening war, catastrophically defeated the British and French armies. And while German effectiveness created the opening, they advanced so far through an enemy with more trained men, guns, tanks and planes in large part because French will collapsed.

Now, the United States arguably has the best technology in the world, it spent some two trillion dollars in Afghanistan—and yet it could not defeat the Taliban. The Taliban lacked high-end technology, but had enough skill with their tools—and will—to emerge victorious. The United States faces a very different challenge from great power competitors who possess cutting-edge technologies, but harnessing minds plus technology will be central here too. Russia is pioneering the use of social media and artificial intelligence to exploit cognitive vulnerabilities. China's vast new air, maritime, and S/T programs—including the "China Brain Project"—focus upon the dynamic interaction of human cognitive capabilities and state-of-the-art technology.

Success now depends not on minds or technology, but on the dyad of minds *plus* technology. This event series brings together world-leading experts to explore how minds and technology are being— and can be—harnessed for military and geostrategic power. We aim to understand:

- what is the latest thinking on minds, technology (e.g. cognitive enhancing drugs, artificial intelligence or quantum) and how they interface and converge;
- what implications does this carry at every level of U.S. national security (from the individual warfighter to the most senior leaders); and
- how can we see this not only for the U.S. and its allies alone, but also in the context of key competitors.

This series will also form the basis of a publication.

Mind-Tech Nexus Speaker Events

- *26 May 2022:* Dr. Stefanie Tompkins (Director, Defense Advanced Research Projects Agency [DARPA]) – [DARPA Director Stefanie Tompkins Kick-off for the New SMA Series on the Mind-tech Nexus](#)
- *28 June 2022:* Dr. Reuven Gal (Senior Research Fellow and Head of the Resilience & Social Issues Section, Samuel Neaman Institute, Technion, Israel), Dr. Ben Connable (Nonresident Senior Fellow, Atlantic Council; Adjunct Professor of Security Studies, Georgetown University), and Dr. Aaron Frank (Senior Information Scientist, RAND) – [Technology and the Soldier's Will to Fight—How Can We Foster Courage in Our New Era?](#)
- *10 August 2022:* Lt Gen Jack Shanahan (Former Inaugural Director of the US Department of Defense Joint Artificial Intelligence Center (JAIC); Member of the Board of Advisors, Special Competitive Studies Project (SCSP)), and Dr. Dave Kilcullen (President & CEO, Cordillera Applications Group) – [The New Character of the "Fog of War"—Seeing to Know and Seeing to Strike](#)
- *13 September 2022:* Mr. Mike McNerney (Senior Researcher, RAND), Maj Gen (Rtd) Andrew Sharpe (Director, Centre for Historical Analysis and Conflict Research [CHACR]), and Ms. Alyssa Demus (Associate International/Defense Researcher, RAND) – [National Will to Fight Amid 2020s/30s Technologies](#)
- *26 October 2022:* Sir David Omand (Kings College London; Former Director, GCHQ; First UK Security and Intelligence Coordinator), Dr. Jonathan Moreno (University of Pennsylvania), and Dr. Jim Giordano (Georgetown University Medical Center) – [Success and the Ethics of Harnessing Minds Plus Technology](#)
- *3 November 2022:* Mr. Sam Bendett (Center for Naval Analyses), Dr. Rita Konaev (Center for Security and Emerging Technology, Georgetown University), and Dr. Chris Meserole (Brookings Institution) – [Russian Integration of Humans and Technologies for Future War—Strengths and Vulnerabilities](#)
- *31 January 2023:* Lt Gen (Ret) Michael Groen, Dr. Amy Kruse (Satori Neuro) and Dr. Nicholas Wright (Intelligent Biology, University College London, New America, and Georgetown University) – [Short-circuiting the OODA Loop: Brain-machine and Human-machine Interfaces in Defense](#)
- *16 February 2023:* Major General (Ret) Mick Ryan (Mick Ryan Solutions), Dr. William D. Casebeer (Riverside Research Institute), and Dr. David Huberdeau (Riverside Research Institute) – [The Quantified Warrior: Monitoring the Physiology of the Human for War](#)
- *31 October 2023:* Professor Mary (Missy) Cummings (George Mason University), Dr. Matthew Johnson (Florida Institute for Human & Machine Cognition), and Ms. Lauren Kahn (Georgetown University) – [Success in Your Near Future With Military Human-Machine Teams](#)
- *16 November 2023:* Dr. Brendan Mulvaney (China Aerospace Studies Institute (CASI)), Joshua Baughman (China Aerospace Studies Institute (CASI)), Dean Cheng (Potomac Institute for Policy Studies; United States Institute of Peace), David Vernal (Gordian Knot Center for National Security Innovation, Stanford University) – [Chinese Advances Combining Minds and Technologies for Military Success](#)
- *30 November 2023:* Lt Gen Jack Shanahan (USAF, Ret, Former Director Joint Artificial Intelligence Center), Tim Hwang (Author & Researcher), Jon Bateman (Carnegie Endowment for International Peace) – [Degrading Adversaries' Military Effectiveness: Uses of Generative AI](#)
- *15 February 2024:* General James E. Rainey (Army Futures Command) – [The Mind-Tech Nexus: Army Futures Command Meeting Tomorrow's Challenges](#)