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## EYE TO EYE IN AI: DEVELOPING ARTIFICIAL INTELLIGENCE FOR NATIONAL SECURITY AND DEFENSE

*Tate Nurkin and Margarita Konaev | Atlantic Council | May 25, 2022*

Over the past several years, militaries around the world have increased interest and investment in the development of artificial intelligence (AI) to support a diverse set of defense and national security goals. However, general comprehension of what AI is, how it factors into the strategic competition between the United States and China, and how to optimize the defense-industrial base for this new era of deployed military AI is still lacking. It is now well past time to see eye to eye in AI, to establish a shared understanding of modern AI between the policy community and the technical community, and to align perspectives and priorities between the Department of Defense (DoD) and its industry partners. Accordingly, this paper addresses the following core questions. AI-enabled capabilities hold the potential to deliver game-changing advantages for US national security and defense, including greatly accelerated and improved decision-making; enhanced military readiness and operational competence; heightened human cognitive and physical performance; new methods of design, manufacture, and sustainment of military systems; novel capabilities that can upset delicate military balances; and the ability to create and detect strategic cyberattacks, disinformation campaigns, and influence operations.

Read the full article here.

## THE GREAT TECHNOLOGY WALL OF CHINA

*Tim Bajarin | Forbes | May 30, 2022*

One of the countries that have always fascinated me has been China. I made my first trip to China in the early 1990s and have gone on many business trips to various cities in China over the last 30 years. It has a rich and complex history, and its people, culture, and food are mysterious to many outside Asian cultures. One of China's architectural wonders is the Great Wall of China. On two business trips to Beijing, I took an afternoon off and went to the closest entry gate to the Wall from Beijing, called Badaling. This is where most tourists and escorted tours start and thus is often crowded. However, it is a great starting point to see the Great Wall's architecture close up and hike a portion of the broad and easy wall to climb. On my last trip, when I had more time, I made it to the highest section of the Great Wall in that area that people can get to and saw a stunning view of a broader region around Beijing. That wall, which spans 13.000 miles, was erected in the third century B.C. to keep out barbarian nomads. A modern-day version of the Great Wall of China is being built today with similar objectives, but this time it is technology and digitally driven.

Read the full article here.

## CHINA IS BUILDING AN ARMY THAT IS TO BE THE WORLD'S DOMINANT FORCE. ARE EUROPEAN SCIENTISTS CONTRIBUTING TO THIS EFFORT?

*Follow The Money: China Science Investigation | May 19, 2022*

For many years, Western intelligence agencies, think tanks and China watchers have been issuing warnings about the Chinese quest for Western technology. President Xi Jinping needs advanced science to shape his country into a technological and military superpower. That goal must be achieved in the near future for the authoritarian state to consolidate its breakthrough on the world stage. To obtain such technologies, Chinese scientists are collaborating extensively with Western universities. But does their research have strings attached? What about cooperation on sensitive topics, meaning that high-quality Western knowledge might flow to the Chinese regime? And to what extent is the Chinese military involved in such collaborations with the West, for instance through its own scientists and research institutes?

Read the full article here.

## WEAK SECURITY CONTROLS AND PRACTICES ROUTINELY EXPLOITED FOR INITIAL ACCESS

*U.S. Joint Cybersecurity Advisory | May 17, 2022*

Cyber actors routinely exploit poor security configurations (either misconfigured or left unsecured), weak controls, and other poor cyber hygiene practices to gain initial access or as part of other tactics to compromise a victims' system. This joint Cybersecurity Advisory identifies commonly exploited controls and practices and includes best practices to mitigate the issues. This advisory was coauthored by the cybersecurity authorities of the United States,[1],[2],[3] Canada,[4] New Zealand,[5],[6] the Netherlands,[7] and the United Kingdom.[8] Malicious actors commonly use the following techniques to gain initial access to victim networks.

- Exploit Public-Facing Application [T1190]
- External Remote Services [T1133]
- Phishing [T1566]
- Trusted Relationship [T1199]
- Valid Accounts [T1078]

Read the full article here.

## THE BRITISH WEAPONS EXPERT COSYING UP TO CHINA

*David Rose | UnHerd | May 26, 2022*

His audience hung on his every word. Here was one of Britain's foremost weapons experts chairing a prestigious, two-day conference devoted to exploring new ways of making arms more deadly. But the packed conference hall, its walls lined with oak and marble, wasn't in Britain. It was in Jinan, the capital of Shandong province in eastern China. Clive Woodley, 67, currently attached to the Department of Shock Physics at Imperial College in London, has worked on high-tech weaponry since his youth. So he had much to say about the conference theme: "New Material Technology for Ammunition." The event "marked a new chapter in the development of artillery, shells and missiles", according to an official report issued afterwards. Most of Woodley's research has been funded by the Ministry of Defence. A former president of the International Ballistics Society, he served as Chief Scientist at the MoD-controlled company QinetiQ from its inception in 2001 — when the MoD privatised its own labs — to 2018. He has advised the MoD about many of its key lethal systems.

Read the full article here.

## OPEN SOURCE INTELLIGENCE MAY BE CHANGING OLD-SCHOOL WAR

*Alexa O'Brien | Wired | May 24, 2022*

An open source panopticon—from commercial big data aggregation to information infrastructure across mobile, smart devices, and social media—is reshaping the way intelligence is collected and used in conventional war. Open source intelligence is information that can be readily and legally accessed by the general public. It was used in war and diplomacy long before the internet—alongside information stolen or otherwise secretly obtained and closely held. But its prevalence today means what was once cost-prohibitive to many is now affordable to myriad actors, whether North Korea, the CIA, journalists, terrorists, or cybercriminals. One consequence of widely available open source information is that anonymity is eroding, not only for ordinary civilians, but also for members of law enforcement, military, and the intelligence community. Even missing information can alert an adversarial spy service, says a former US intelligence official who spoke on background.

Read the full article here.

## WHY SWISS UNIVERSITIES ARE COOPERATING WITH CHINA'S MILITARY INSTITUTIONS, AND WHY THIS IS A CONCERN

*Katrin Büchenbacher, Julia Monn, Anja Lemcke, and Christian Speicher | Neue Zürcher Zeitung May 24, 2022*

Moritz Busch's (not his real name) inbox regularly fills up with emails from all over the world – including some from China. The professor at ETH Zurich, the prominent Swiss research university, is a sought-after research partner. He is a leader in his field. Only rarely does he answer the inquiries. They often touch on his field of research in passing at best. However, the email that reached him at the end of 2015 was different. A Chinese doctoral student with the surname of Gu (also not a real name) was seeking a one-year research appointment at ETH. His project perfectly complemented the ongoing research of another Chinese PhD student. Busch agreed. Gu began his stay at ETH in October 2016. He rarely interacted with the group. «He did his experiments and wrote his papers and was gone again after the year,» Busch says today. A short time later, the professor lost contact with him, and has never heard from him since. «It left a bad taste in my mouth,» he says. Gu had begun his doctoral studies at the National University of Defense Technology (NUDT) in China.

Read the full article here.

## JAPANESE UNIVERSITIES TOLD TO INVESTIGATE INT'L STUDENTS & PREVENT ESPIONAGE

*Erudera | May 30, 2022*

Universities in Japan have been told to investigate international students and researchers in a bid to prevent espionage from countries such as China. As Reuters reports, Japanese universities have been asked to investigate the background of students, faculty, and researchers who have connections to foreign governments or institutions with a focus on the defense field. The investigation is said to be an important issue to protect Japan's national security and exchanges with universities in the United States and across Europe. Japanese officials noted that the request was necessary after a series of arrests of academics from China in the United States. "Around the world, export controls are getting more stringent on foreign nations like China," an official from the Japanese trade ministry who works with universities to check high-risk technology data told Reuters. The official added that the ministry wants universities in Japan to be trusted for their safety and trade controls, so they can continue the joint research with the US and European countries.

Read the full article here.

## SECRETARY OF STATE MAKES CASE FOR TECH-CENTERED STRATEGY TO COUNTER CHINA

*Mariam Baksh | Nextgov | May 26, 2022*

Secretary of State Antony Blinken joined a chorus of current and former administration officials urging lawmakers to pass legislation that would significantly invest in research and development and private-sector incentives to secure the supply chain of advanced technologies from threats presented by China. "The House and Senate have passed bills to support this agenda, including billions to produce semiconductors here and to strengthen other critical supply chains," Blinken said. "Now, we need Congress to send the legislation to the president for his signature." Blinken was specifically referring to legislation that is being conferenced by members of the House and Senate which have each passed their own versions of legislation that would put at least $50 billion toward grants to incentivize the industry to establish fabrication plants for the chips—the vast majority of which are currently in East Asia—within the United States. The Semiconductor Industry Association is pushing for additional tax breaks. Some Republican members of Congress have questioned allowing U.S. companies a tax write-off for investments in semiconductor R&D on top of the grant incentives.

Read the full article here.

## CHOKEPOINTS: CHINA'S SELF-IDENTIFIED STRATEGIC TECHNOLOGY IMPORT DEPENDENCIES

*Ben Murphy | Center for Security and Emerging Technology | May 2022*

Speaking to Chinese scientists in September 2020, President Xi Jinping of the People's Republic of China warned that the PRC is at the mercy of foreign countries that supply it with "chokepoint" technologies. "We rely on imports for some critical devices, components, and raw materials," he said. PRC leadership concerns about strategic technologies are not new. Many Chinese policy documents issued in the last several years identify categories of technology with particular importance for PRC national security and economic competitiveness. And others, notably China's 2016 National Innovation-Driven Development Strategy, fret that certain "key and core technologies are controlled by others," a phrase that Xi also frequently uses. However, as a rule, these policies and other PRC state-run media content rarely go into detail about exactly which "key and core technologies" (关键核心技术) are "controlled by others" (受制于人), nor do they specify just who these "others" are.

Read the full article here.

## HARVARD AND THE FIGHT FOR FOREIGN COLLABORATION

*Omar Abdel Haq And Eric Yan | The Harvard Crimson | May 26, 2022*

For more than 30 years, Section 117 of the Higher Education Act was one of the litany of obscure items in the United States federal code that was all but obsolete. The provision, passed by Congress in 1986, requires American universities to disclose gifts and contracts from foreign sources that total more than $250,000 in a calendar year. But for years, the requirement was often ignored by federal officials and seldom understood by the schools responsible for the disclosures, rendering it to be largely toothless. Universities handed over data about their foreign contributions only sparsely, and warnings from the government were few and far between. From 2014 to 2017, for instance, Yale did not report any foreign contributions. That all changed in 2019. In the final two years of Donald Trump's administration, the federal government ramped up efforts to monitor how academia handles money it gets from abroad. The Department of Education launched high-profile investigations into 19 U.S. universities, including some of academia's biggest names: Harvard, Yale, Stanford, MIT.

Read the full article here.

## CHINA'S INTERESTS IN U.S. AGRICULTURE: AUGMENTING FOOD SECURITY THROUGH INVESTMENT ABROAD

*Lauren Greenwood | U.S.-China Economic And Security Review Commission | May 26, 2022*

China faces growing demands on its agricultural production that it seeks to address through policy, technology, and economic activities. In 2021, China imported a record amount of corn at 28.35 million metric tons (mmt), 152 percent more than in 2020 and more than 10 percent of China's Ministry of Agriculture and Rural Affairs (MARA) estimate for the country's total corn consumption (see Tables 1 and 2). 1 The China Academy of Social Sciences' 2020 Rural Development Institute report claimed "there is likely to be a grain shortfall of about 130 mmt, including about 25 mmt of staple food grain" by the end of 2025.* 2 Diminishing arable land, shifting demographics, and natural disasters compound these trends and present food security challenges to China's leaders. In response, China has introduced domestic policies to promote food security and lessen food waste, both of which have been a priority of General Secretary of the Chinese Communist Party (CCP) Xi Jinping since he assumed power.

Read the full article here.

## CHINA COULD USE FORBES TO PUSH COMMUNIST PROPAGANDA, SENATORS WARN

*Adam Kredo | The Washington Free Beacon | May 31, 2022*

A Chinese-controlled firm's bid to buy the Forbes media company poses a national security threat and would allow the Chinese Communist Party to push its propaganda by using one of the most recognizable American brand names, according to a group of Republican senators. "Forbes is a recognizable American brand with immense propaganda value to the CCP," Sens. Tom Cotton (Ark.), Bill Hagerty (Tenn.), Ted Cruz (Texas), and Bill Cassidy (La.) wrote on May 24 to the Treasury Department, demanding the Biden administration launch an investigation into the proposed purchase. "The CCP's direction of Forbes' editorial content and business operations, or its access to Forbes' financial and personal research, could present a serious national security threat to the United States." Forbes announced in August that it was preparing to be acquired by Magnum Opus Acquisition Limited, which is "controlled by the Chinese Communist Party," according to the senators.

Read the full article here.

## CHINA'S 'INNOVATION MACHINE': HOW IT WORKS, HOW IT'S CHANGING AND WHY IT MATTERS

*Marina Yue Zhang, David Gann, and Mark Dodgson | The Conversation | May 4, 2022*

China has had the world's fastest growing economy since the 1980s. A key driver of this extraordinary growth has been the country's pragmatic system of innovation, which balances government steering and market-oriented entrepreneurs. Right now, this system is undergoing changes which may have profound implications for the global economic and political order. The Chinese government is pushing for better research and development, "smart manufacturing" facilities, and a more sophisticated digital economy. At the same time, tensions between China and the west are straining international cooperation in industries such as semiconductor and biopharmaceutical manufacturing. Taken together with the shocks of the Covid pandemic, and particularly China's rapid and large-scale lockdowns, these developments could lead to a decoupling of China's innovation system from the rest of the world. The government sets regulations aligned to the state's objectives, and may send signals to investors and entrepreneurs via its own investments or policy settings. But within this setting, private businesses pursue opportunities in their own interests.

Read the full article here.

## CHINA'S QUANTUM LEAP

*Josie-Marie Perkuhn, Tania Becker, Nancy Wilms, and Sven Pabis*
*Goethe-Institut: Living In A Quantum State | May 2022*

The development of quantum computers is currently taking centre stage in science and politics worldwide, as well as being a matter of general public interest. Global players in the field of research are mostly to be found in the USA, China and Europe. Because they haven't yet standardised the development and implementation of industry norms at this stage of research, there will not be one single universal quantum computer, but instead multiple approaches based on different technologies and application fields will emerge simultaneously. It is not yet possible to predict when we will reach the point of having a viable quantum computer. The quantum leap has not happened yet.[jom1] Robustness and stability are essential requirements to ensure that a quantum computer is suitable for as wide a range of applications as possible. The potential is huge, however there is a lack of stable hardware and reliable software, plus the fact that the algorithms to allow precision use of the quantum computer still need to be written. A quantum computer works by applying the principles of quantum mechanics microelectronically to solve complex mathematical problems based on the ambivalence of quantum physics. These problems are either not solvable for today's most powerful supercomputers – for instance the Japanese Fugaku, which has almost half a million teraflops of processing power – or they would need an inordinately long time to do so.

Read the full article here.