# BIOTECH AFF

## Case

### 1AC Plan (resilience)

**The United States federal government should substantially increase its security cooperation with the North Atlantic Treaty Organization in the area of biotechnology by promoting and facilitating improved strategies for biosecurity challenges based on the core concept of resilience, emphasizing damage minimization and quick restoration of stability.**

### 1AC Solvency

#### Resilience-focused biotech cooperation with NATO spurs defensive and developmental advances

Jaclyn Levy ’21, June 10, “Millennium Leadership Fellow at the Atlantic Council and the director of public policy at the Infectious Diseases Society of America,” NEW ATLANTICIST, The best defense: Why NATO should invest in resilience

The COVID-19 pandemic has magnified not only the successes and failures of the world’s health systems but also the importance of multilateral partnerships in biosecurity. Preparing for the next pandemic will require adaptation, interconnectivity, and resilience—the capacity to resist and recover quickly from major infrastructure shocks. Intergovernmental alliances like NATO can play a critical role in the relationship- and capacity-building necessary for a healthy global biosecurity sphere, which ensures a more secure world.

There are many lessons from the last fifteen months, but among them is a time-honored proverb: an ounce of prevention is worth a pound of cure. Many public-health and security crises are a product of critical infrastructure vulnerabilities, but an expanded focus on resilience in developing a global security strategy can prevent the next crisis. Responding to emergencies such as pandemics is far more expensive than preventing them and creates additional costs such as strained political cohesion and waning support for public institutions. Policies emphasizing resilience should fundamentally aim to minimize damage, restore stability quickly, and generate improved strategies for similar issues. To this end, there are several steps NATO can take to build a preventive, resilience-based approach to emerging global challenges.

Article 3 of the North Atlantic Treaty includes resilience as a critical element of its mission to achieve collective defense, and the Alliance supports multiple programs to build resilience against non-traditional threats. At its 2016 Warsaw Summit, NATO committed to “continue to enhance our resilience against the full spectrum of threats, including hybrid threats, from any direction,” and added that “resilience is an essential basis for credible deterrence and defence and effective fulfilment of the Alliance’s core tasks.” In June, NATO Secretary General Jens Stoltenberg said during an appearance at the Atlantic Council that a critical part of the Alliance’s agenda over the coming decade is to support “resilience technologies.”

The COVID-19 pandemic has made clear NATO’s value in an unpredictable world. In 2020, NATO troops supported civilian efforts to combat the spread of COVID-19 by airlifting patients and medical equipment, building field hospitals, distributing supplies, repatriating civilians, establishing quarantine facilities and triage centers, assisting with decontamination, and sharing medical expertise. After this pandemic recedes, NATO’s proposals for responding to biothreats and other novel challenges should include investments in resilience to help combat “black swan” events, which may turn existing health or environmental emergencies into security crises. “Resilient societies are our first line of defense,” said NATO Deputy Secretary General Mircea Geoană in December, adding that “we have to put a much greater emphasis on resilience” across government, the private sector, and civil society.

NATO should start advancing resilience by leveraging and strengthening the following policies, programs, and partnerships:

The NATO Science & Technology Organization (STO) develops innovative solutions with global experts to ensure that the Alliance’s technological capacity meets its needs in a quickly changing world. Allied governments contributed approximately 500 million euros to STO last year, forming a pool of already-allocated funding that could support resilience-building efforts. To advance and sustain technological innovation that enhances global resilience, the STO’s Science and Technology Board should push for a sustained allocation of funding specifically for resilience research, biomedical research and development, and ambitious pilot programs focused on sharing pathogen surveillance data between countries and their health systems, developing biomedical research infrastructure, and conducting training simulations for biothreat and public-health emergencies.

The NATO Science for Peace and Security (SPS) Programme, as defined by the Alliance, promotes dialogue and cooperation “based on scientific research, technological innovation, and knowledge exchange. [It] offers funding, expert advice and support to… security-relevant activities that respond to NATO’s strategic objectives.” During the pandemic, SPS led efforts to advance the development of rapid COVID-19 tests. In the future, SPS should invest in ways to identify and combat swiftly rising global antimicrobial resistance, synthetic biology threats, and agricultural vulnerabilities; it should also invest in assessments and fortifications of medical and biosecurity stockpiles.

The Euro-Atlantic Disaster Response Coordination Centre (EADRCC) has experience supporting responses to infectious-disease outbreaks, which threaten to increase as a consequence of climate change, industrialization, and global migration. EADRCC activities leverage emerging technologies to enhance resilience and build capacities for crisis response. Previous joint exercises with the SPS Program have included testing innovative telemedicine and communications platforms. EADRCC’s successful logistical coordination during the COVID-19 pandemic underscores its unique value; in the future, the EADRCC should expand its role in international cooperation and information-sharing between military medical services and civilian health systems.

The Joint Chemical, Biological, Radiological, and Nuclear Defence (JCBRN) Centre of Excellence, a NATO military body focused on CBRN defense advice, education, training, and exercises, can convene member states and partners for training simulations and security activities related to novel threats in the context of regional and global issues. JCBRN should act on this capacity, in coordination with the Crisis Management and Disaster Response Centre of Excellence, to ensure that NATO member countries are prepared to combat future outbreaks and biological events. Strengthening bio-preparedness efforts through modeling and planning will help drive a resilient crisis response.

Established during the pandemic, the NATO Pandemic Response Trust Fund stockpiles medical equipment and supplies for members of the Alliance and partners in need. Beyond the current pandemic, it can help defend against future chemical, biological, radiological, nuclear, and public-health threats—only if NATO maintains and adapts these stockpiled resources for other critical public-health and infrastructure needs.

Looking ahead, the NATO 2030 initiative aims to elevate democratic leadership around the world, advance biomedical science and global technology, and position NATO and its partners to tackle novel global security challenges through a lens of flexibility and adaptation. Strategic investments in these efforts will establish resilient frameworks for addressing emerging threats, which is critical for successful collective defense.

Realizing the full potential of these and other programs will require additional support from NATO operations, planning, policy, and civilian divisions. Allies and international organizations should also continue working with NATO on the ground to support equipment procurement and regional needs. In today’s unpredictable security environment, successfully responding to threats requires resilience—and NATO is well-positioned to make resilience a reality.

### Bioterror ADV – yes risk

#### Bio agents are at risk of leakage – security measures fail, countless lab failures, no safety records

**Young and Penzenstadler,**investigative journalist for USA today, Reporter for USA TODAY's investigative team, ,**15** (Alison Young and Nick Penzenstadler, 5-28-2015, USA TODAY, "Inside America's secretive biolabs", https://www.usatoday.com/story/news/2015/05/28/biolabs-pathogens-location-incidents/26587505/, accessed on 7-4-2022, USA TODAY, ,FLC )

https://www.usatoday.com/story/news/2015/05/28/biolabs-pathogens-location-incidents/26587505/

Vials of bioterror bacteria have gone missing. Lab mice infected with deadly viruses have escaped, and wild rodents have been found making nests with research waste. Cattle infected in a university's vaccine experiments were repeatedly sent to slaughter and their meat sold for human consumption. Gear meant to protect lab workers from lethal viruses such as Ebola and bird flu has failed, repeatedly.

A [USA TODAY Network investigation](https://www.usatoday.com/story/news/2015/05/28/biolabs-pathogens-location-incidents/26587505/) reveals that hundreds of lab mistakes, safety violations and near-miss incidents have occurred in biological laboratories coast to coast in recent years, putting scientists, their colleagues and sometimes even the public at risk.

Oversight of biological research labs is fragmented, often secretive and largely self-policing, the investigation found. And even when research facilities commit the most egregious safety or security breaches — as more than 100 labs have — federal regulators keep their names secret.

Of particular concern are mishaps occurring at institutions working with the world's most dangerous pathogens in biosafety level 3 and 4 labs — the two highest levels of containment that have proliferated since the 9/11 terror attacks in 2001. Yet there is no publicly available list of these labs, and the scope of their research and safety records are largely unknown to most state health departments charged with responding to disease outbreaks. Even the federal government doesn't know where they all are, the Government Accountability Office has warned for years.

#### Terrorists biotech expertise is up, bioterrorism likely to increase, a lab breach could cause mass spread of viruses

Piper, staff writer for vox and Stanford grad, 4-5-22,

[Kelsey, 4-5-22, Vox, “Why experts are terrified of a human-made pandemic — and what we can do to stop it,” <https://www.vox.com/22937531/virus-lab-safety-pandemic-prevention>, accessed 7-4-22, , FLC]

“The fact is that laboratory accidents are not rare in life sciences,” former Sen. Joe Lieberman told the bipartisan Commission on Biodefense [this March](https://www.youtube.com/watch?v=TvjNbayZHxY). “As countries throughout the world build additional laboratories to conduct research on highly infectious and deadly pathogens, it’s clear that the pace of laboratory accidents will naturally increase.

According to [research published last year](https://schar.gmu.edu/news/2021-07/new-interactive-map-reveals-where-deadliest-germs-are-studied) by King’s College London biosecurity researchers Gregory Koblentz and Filippa Lentzos, there are now nearly 60 labs classified as BSL-4 — the highest biosecurity rating, for labs authorized to carry out work with the most dangerous pathogens — either in operation, under construction, or planned in 23 different countries. At least 20 of those labs have been built in the last decade, and more than 75 percent are located in urban centers where a lab escape could quickly spread.

Alongside the near certainty that there will be more lab escapes in the future, engineering the viruses that could conceivably cause a pandemic if they escaped is getting cheaper and easier. That means it’s now possible for a single lab or small group to conceivably cause mass destruction across the whole world, either deliberately or by accident.

“Potential large-scale effects of attempted bioterrorism have been mitigated in the past by terrorists’ lack of expertise, and the inherent challenge of using biotechnology to make and release dangerous pathogens. Now, as people gain greater access to this technology and it becomes easier to use, the challenge is easing,” Pavel [argues](https://www.atlanticcouncil.org/commentary/article/facing-the-future-of-bioterrorism/). The result? “Incidents of bioterrorism soon will become more prevalent.”

#### Bioterrorism is hard to track but has incredible capacity for destruction

**Tin et al.,** Department of Emergency Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, USA, ,**22** (Derrick Tin, Pardis Sabeti, and Gregory Ciottone, 2-6-2022, PubMed Central (PMC), "Bioterrorism: An analysis of biological agents used in terrorist events", https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8818129/, accessed on 7-6-2022, PubMed Central (PMC), ,FLC )

The reported use of biological agents as a terrorist weapon is extremely rare and accounts for 0.02% of all historic terrorist attacks [9,10]. Despite its apparent rarity, however, bioterrorism has the ability to inflict mass injuries unmatched by conventional weapons (mean injury rate of explosives in terrorist attacks = 4./event vs 28.8/event in biological attacks) [9]. Moreover, given the surreptitious nature of these attacks, they are more likely to go unreported than conventional weapons. Research into personal biological threat sensors and advanced bioprotective suits are currently underway, but questions remain in the medical preparedness to respond to bioterrorism events [11]. The recent Covid19 pandemic has exposed significant flaws in biocontainment, disease screening and surveillance, mobilisation of personal protective equipment, medical surge capacities and vaccine countermeasures to biothreats. It has also revealed the complexities around crisis leadership and public education, as evidenced by the inconsistent implementation of and adherence to nonpharmaceutical interventions (NPIs), and global vaccine hesitancy and inequities, all of which could be exploited in the planning of a bioterrorism attack. While the origins of Covid19 remains inconclusive, there has been much debate around the use of modern-day technology to manipulate existing agents or create novel biothreats [12].

Synthetic biology emerged in the 1960s (though it was first coined in the 1910's) but the past decade has seen an explosion of interest, activity and advances in this scientific field [13]. Today, it encompasses specialties such as biotechnology, genetic engineering, molecular biology and biological, electrical and computer engineering [14]. Advances in genetic engineering such as CRISPR technology (often considered to be the most important recent innovation in this field) in particular, has significantly fuelled the growth of synthetic biology [15]. The ability to rapidly edit gene sequences without the need for highly sophisticated and expensive equipment in an institutionalized environment has raised significant concerns around biohacking, a growing biotechnological movement in which individuals can experiment and create entire genomes from scratch (including those of lethal pathogens) with little-to-no safety oversight. Do-it-yourself (DIY) home CRISPR kits already exist on the market today [16].

While the Biological Weapons Convention established in 1975 prohibits the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons by the 183 states (as of September 2021) that have ratified and acceded the treaty, little can stop rogue actors or terrorist organisations from harnessing existing or creating novel biothreats using the technology available today [17]. Security concerns range from increasing the lethality or ease of transmission of biological agents to developing novel delivery methods that can overcome preventative vaccine measures [18].

Much has been learned since the beginning of the Covid19 pandemic and expert suggestions in addressing future biothreats include elevating infectious diseases as potential threats to national security, maintaining funding and support to biological research, public health and biological surveillance programs, maintaining medical workforce readiness and improving cross-country collaborations and communication [19].

Bioterrorism highlights the importance of specialist knowledge needed in the field of Counter-Terrorism Medicine (CTM), a subspecialist field of Disaster Medicine (DM). CTM experts need to remain vigilant in anticipating novel attack methodologies that can threaten healthcare system infrastructures and provide solutions in mitigating the healthcare risks of such attacks. Robust CTM education should be incorporated into traditional DM teachings, as well as emergency medical, nursing and pre-hospital medicine curriculums in an effort to heighten awareness and enhance medical preparedness to future intentional, man-made attacks.

The GTD is a comprehensive record of documented global terrorist events. It is maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism, and is the basis for other terrorism-related measures, such as the GTI. Reliance wholly on the GTD is partially mitigated by confirmation with other lay sources, and searches for other online searches, but if there are incidents not reported in the GTD, this could limit the veracity of the findings. Furthermore, the lack of a universally agreed-upon definition of the term terrorism can create inconsistencies between databases in the labelling of such events. Clear and detailed documentation of terrorist events is further hindered by restrictions on reporting, the lack of independent corroboration and the lack of transparency within certain government sources. Infrastructure needed to report, detect and identify biological agents is likely lacking in many parts of the world leading to potential under reporting of events. The greater number reported in the United States may be due to greater scrutiny of potential events. Event descriptions as provided by the GTD rely mostly on grey literature sources and as such accuracy is only limited to those sources.

Bioterrorism attacks have been historically rare but have the ability to inflict large-scale, mass casualty events. Anthrax has been most commonly used in previous bioterrorism events with the vast majority of reported attacks occurring in the United States by a single suspected perpetrator. With new advances in microbiology and synthetic biology, it is becoming increasingly possible for individual or small groups of rogue actors to develop and disseminate advanced bioweapons. While the Covid19 pandemic has likely raised the awareness levels of first responders to biothreats, it has also exposed response and preparedness vulnerabilities in the healthcare sector. Counter-Terrorism Medicine and Disaster Medicine specialists need to be proactive in delivering ongoing educational sessions on biological events to first responder communities, and anticipate emerging novel biotechnology threats.

### China ADV – China rising fast

#### China advancing 6 times faster than US in biotech

**Cancherini et al.,** MIT SLoan Grad, ,**21** (Laura Cancherini, Joseph Lydon, Jorge Santos da Silva, and Alexandra Zemp, 4-30-2021, McKinsey & Company, "What’s ahead for biotech: Another wave or low tide?", https://www.mckinsey.com/industries/life-sciences/our-insights/whats-ahead-for-biotech-another-wave-or-low-tide, accessed on 7-6-2022, McKinsey & Company, ,FLC )

Unlike most industries in these extraordinarily challenging times, biotech is experiencing a high. Executives in many other sectors are becoming more pessimistic about the outlook for their businesses as the global pandemic continues to spread. 1 1. McKinsey interviewed more than 2,000 executives from multiple sectors in October 2020. The majority believed that the global public-health response to COVID-19 would be partly effective but with regional resurgence and that economic interventions would be partly effective or ineffective. But the search to understand and find treatment or preventive solutions to COVID-19 has focused intense government, media, and public attention on science and medicine, reinforcing the perception that biotech acquisitions and partnerships represent a good investment.

In an effort to understand worldwide biotech financing in the context of the COVID-19 crisis, McKinsey analyzed the sector’s financial performance and interviewed 20 C-level executives from small and midsize biotechs and venture-capital (VC) firms.

The pandemic has had an enormous financial impact on many sectors, but biotech has weathered the storm: after a brief downturn early in the crisis, it recovered quickly (Exhibit 1). Between January 2020 and January 2021, the average share price for European and US biotechs increased at more than twice the rate of the S&P 500, and Chinese biotechs performed more than six times better, with their average share price more than doubling in a year. Overall, biotech is outperforming its sister industry, pharmaceuticals, as well as many household-name consumer-goods and technology companies.

### China ADV – A2 coop not competition

#### China explicitly wants to compete, not cooperate

Rob Carlson and Rik Wehbring ’20, “TWO WORLDS TWO BIOECONOMIES,” National Security Report, JOHNS HOPKINS https://www.jhuapl.edu/Content/documents/Carlson\_Wehbring-Biotech.pdf

The government of China has explicitly described its intent to dominate the global stage in the twenty-first century through biotechnology and has been working to implement associated long-term strategic goals. While China has a multidecadal vision that has informed its strategy and has subsequently been implemented using various tactics, the United States has no similar long-term vision and has exhibited no coordinated response to Chinese actions. In this paper, we do not address this larger issue. Instead, we examine one particular strategy—decoupling— to lay the groundwork for further policy analysis. In particular, we describe the current environment (size and composition of US and Chinese revenues from biotechnology) and the interdependence of biotechnology in the two countries and then offer a first review of how some decoupling mechanisms might unfold. We also examine the strategic risk that decoupling may pose to each country in the context of accelerating, and compounding, learning rates in biological engineering.

#### China versus US battle over biotech is zero-sum

Adrien ‘19 (Claudia Adrien, 11/21/2019, reporter who previous covered biosecurity, “Chinese biotechnology dominates U.S. Senate hearing on biological threats, <https://homelandprepnews.com/countermeasures/40093-chinese-biotechnology-dominates-u-s-senate-hearing-on-biological-threats/>) 6/27/2022

China is rapidly gaining on the United States when it comes to creating technology that mitigates disease threats and developing pharmaceuticals faster, and it’s a phenomenon driven by a philosophy that the state, military, and the private sector are one in the same.

That was the testimony of Tara J. O’Toole, senior fellow and executive vice president at In-Q-Tel, before the U.S. Senate Armed Services Subcommittee on Emerging Threats and Capabilities. The hearing, Biological Threats to U.S. National Security, examined everything from China’s push to develop biotechnology infrastructure to luring research scientists away from the United States to work in China.

“China has said repeatedly and forcefully, and they’re backing up their words with actions, that they intend to own the biorevolution,” O’Toole said. “And they are building the infrastructure, the talent pipeline, the regulatory system, and the financial system they need to do that.”

China is partly accomplishing this by combining its internet giants, such as Alibaba, with its biotech companies. The combined strength of these companies’ research focuses on the industrialization of artificial intelligence in which China is “institutionalizing it” whereas the United States is only “experimenting with it,” O’Toole added.

China’s goal is to make biotechnology 5 percent of the country’s GDP by 2020. China has changed regulations for its own version of the Food and Drug Administration to be more like that of the United States in order to more easily market to the world. The country has created a talent pipeline that incentivizes its own students to go into the life sciences and bioengineering. China also has at least 20 programs intended to bring scientific talent from the rest of the world.

### China ADV – Hegemony solvency

#### The time is now for the US to counter China’s rise in the biotech sector to maintain tech hegemony

Bâlgăr 22 (Ana-Cristina Bâlgăr; political writer for the Global Economic Observer, “*The Strategic Role of Sino-U.S. Bilateral Investments in China’s Advance in the Field of Biotechnologies*” [http://www.globeco.ro/wp-content/uploads/vol/GEO\_Vol\_10\_No\_1.pdf#page=49] Accessed 7/7/22, TR)

As a result of the political measures adopted from a very early stage by the Chinese central authorities in order to regulate and guide foreign direct investment in accordance with the country’s own strategies for the modernisation of the biotechnological sector and, later on, direct Chinese outward direct investment in accordance with the same national interests, correlated with the sustained efforts made over the recent years for the creation of a knowledge-based economy, **China** gradually **reduced the gap** that was separating it from the technological frontier, and became one of the **main competitors** in the race for global supremacy in the field of **biotech**nology. As such, in addition to an ample direct support for research programmes and initiatives in the field, the Chinese government applied a sustained and gradual policy seeking to encourage the entry on the Chinese market of large transnational biotech corporations (U.S. companies in particular) and the relocation of their production on the local market, coupled with the adoption of measures meant to stimulate national companies to merge with and acquire U.S. companies in the field. Over the recent years, the **competition** between China and the U.S. in the field of biotechnology has become **fierce,** and the U.S. officials are not sparing any efforts in claiming China’s advance with regard to the development of emerging technologies in critical sectors. This may be true in certain fields, but not in the biotechnology sector, for now. Certainly, Chinese biotechnological industries are evolving at an accelerated pace, and some companies become leaders on certain market sub-segments (e.g. cancer treatment), but nevertheless, the U.S. holds the dominant position in the research-development-marketing activities based on the significant results assimilated in a period of over a decade (2000-2013) in which they held almost half of the total number of patents submitted in the field of biotechnology worldwide. Biotechnology is a **critical** aspect **in** the **tech**nological **competition** between the U.S. and China, because based on its complexity and multidisciplinary nature, this sophisticated discipline has the capacity to transform in an interchanging way two essential fields: medicine applications and uses that are generally the prerogative of a military power. To exemplify more clearly, as shown by the history of the 20th century, the evolution of discoveries in physics enabled the understanding and use of nuclear reactions to produce energy; however, the same scientific principles were later used for the production of nuclear weapons. Biotechnology offers a similar mix of promises and dangers. For example, the discovery of the CRISPR-Cas9 enzyme system (which was awarded the Nobel Prize in 2020) enables the highly precise encryption of a body’s genome, which makes it a transforming discovery. However, while CRISPR is very promising for the development of innovating treatments for certain conditions that have long been considered untreatable, it could also lead to the production of a new generation of lethal biological weapons. **China’s determination** to become a **global power in** the field of **biotech**nology is reflected in the unequalled level of government support, in the minute development of roadmaps for each stage of evolution, in the design of policies for incentivising the attraction of high-quality talents (regardless of nationality), as well as in the creation of a national ecosystem that favours innovation. Since the period when Deng Xiaoping was leading the country, China has started an ample transition process which enabled it to shift from the status of an “imitator” of developed nations to that of an innovating country. Concomitantly with this transition, biotechnology applications extended to extremely diverse fields such as: medicine, industry, agriculture, energy and environmental protection. Despite the persistent delays noted in the production of medical devices, China has reached its goal being today among the world leaders in the field of genome editing, immune therapy, cell therapy and the integration of information technology in medicine.

#### Biotech is key to global tech dominance and maintaining US-NATO leadership

Bâlgăr 22 (Ana-Cristina Bâlgăr; political writer for the Global Economic Observer, “*The Strategic Role of Sino-U.S. Bilateral Investments in China’s Advance in the Field of Biotechnologies*” [http://www.globeco.ro/wp-content/uploads/vol/GEO\_Vol\_10\_No\_1.pdf#page=49] Accessed 7/7/22, TR)

As a result of the political measures adopted from a very early stage by the Chinese central authorities in order to regulate and guide foreign direct investment in accordance with the country’s own strategies for the modernisation of the biotechnological sector and, later on, direct Chinese outward direct investment in accordance with the same national interests, correlated with the sustained efforts made over the recent years for the creation of a knowledge-based economy, China gradually **reduced the gap** that was separating it from the **technological frontier**, and became one of the main competitors in the race for global supremacy in the field of biotechnology. As such, in addition to an ample direct support for research programmes and initiatives in the field, the Chinese government applied a sustained and gradual policy seeking to encourage the entry on the Chinese market of large transnational biotech corporations (U.S. companies in particular) and the relocation of their production on the local market, coupled with the adoption of measures meant to stimulate national companies to merge with and acquire U.S. companies in the field. Over the recent years, the competition between China and the U.S. in the field of biotechnology has become **fierce**, and the U.S. officials are not sparing any efforts in claiming China’s advance with regard to the development of emerging technologies in critical sectors. This may be true in certain fields, but not in the biotechnology sector, for now. Certainly, Chinese biotechnological industries are evolving at an accelerated pace, and some companies become leaders on certain market sub-segments (e.g. cancer treatment), but nevertheless, the U.S. holds the dominant position in the research-development-marketing activities based on the significant results assimilated in a period of over a decade (2000-2013) in which they held almost half of the total number of patents submitted in the field of biotechnology worldwide. **Biotechnology is a critical aspect in the technological competition** between the U.S. and China, because based on its complexity and multidisciplinary nature, this sophisticated discipline has the capacity to transform in an interchanging way two essential fields: medicine applications and uses that are generally the prerogative of a military power. To exemplify more clearly, as shown by the history of the 20th century, the evolution of discoveries in physics enabled the understanding and use of nuclear reactions to produce energy; however, the same scientific principles were later used for the production of nuclear weapons. Biotechnology offers a similar mix of promises and dangers. For example, the discovery of the CRISPR-Cas9 enzyme system (which was awarded the Nobel Prize in 2020) enables the highly precise encryption of a body’s genome, which makes it a transforming discovery. However, while CRISPR is very promising for the development of innovating treatments for certain conditions that have long been considered untreatable, it could also lead to the production of a new generation of lethal biological weapons. **China’s determination** to become a global power **in** the field of **biotech**nology is reflected in the unequalled level of government support, in the minute development of roadmaps for each stage of evolution, in the design of policies for incentivising the attraction of high-quality talents (regardless of nationality), as well as in the creation of a national ecosystem that favours innovation. Since the period when Deng Xiaoping was leading the country, China has started an ample transition process which enabled it to shift from the status of an “imitator” of developed nations to that of an innovating country. Concomitantly with this transition, biotechnology applications extended to extremely diverse fields such as: medicine, industry, agriculture, energy and environmental protection. Despite the persistent delays noted in the production of medical devices, China has reached its goal being today among the world leaders in the field of genome editing, immune therapy, cell therapy and the integration of information technology in medicine.

### Europe ADV – backsliding now

#### Europe is at major risk of autocratization – most nuanced understanding of data supports

Staffan I. Lindberg ’18, July 4, the director of the Varieties of Democracy (V-Dem) Institute and professor of political science at the University of Gothenburg. “The Nature of Democratic Backsliding in Europe,” CARNEGIE EUROPE, https://carnegieeurope.eu/2018/07/24/nature-of-democratic-backsliding-in-europe-pub-76868

The level of democracy in Europe remains close to its highest level ever recorded. Albania, for example, recently transitioned into a liberal democracy. Yet, as in other parts of the globe, substantial autocratization over the last ten years may threaten the future viability of democracy in Europe. Several countries have recently backslid from liberal to electoral democracies, and authoritarian rule is increasingly recorded in others. This backsliding occurs primarily in media and civil society—non-electoral soft spots of democracy where governments can limit democratic space with less immediate scrutiny.

The subtlety and variation across different components of democracy needs to be fully understood to correctly address the challenge to democracy in Europe. Electoral institutions and practices remain robust (or are even improving). It is media freedom, freedom of expression and alternative sources of information, and the rule of law that are being undermined in a significant number of countries.

These disquieting conclusions fit political scientist Nancy Bermeo’s observation that “the most blatant forms of backsliding” are disappearing while surreptitious tactics such as harassment of the opposition and subversion of horizontal accountability are on the rise: “Elected executives weaken checks on executive power one by one . . . [and] hamper the power of opposition forces to challenge executive preferences.”4

Both negative and positive trends are observed at the same time. It is important to recognize that the “democraticness” of European society is under strain. Placed in the wider sweep of time, the current situation is not yet as bad as previous moments of crisis; European democracy still scores well across most indicators compared to the 1970s. Tremulous times are nothing new. Yet recent developments most certainly give room for pause.

V-Dem’s 2017 democracy report concluded that democracy still seems relatively resilient.5 This year, the assessment is more pessimistic. Democracy is being rolled back. A trend of autocratization is evident. The starkest difference from last year is the number of very large and powerful nations that are now part of the autocratization wave, affecting billions of people and sending a very strong signal to the rest of the world.

### Europe ADV – A2 U.S. could do it alone

#### U.S. advances pay off bigger through NATO

W. Bruce Weinrod ’16, January 15, “We Still Need NATO,” THE AMERICAN INTEREST, https://www.the-american-interest.com/2016/01/15/we-still-need-nato/

Not only does NATO remain relevant, but more importantly it continues to support and advance U.S. security interests—though again, often in ways that do not make headlines and that casual observers rarely appreciate in full. Most fundamentally, NATO provides a standing multilateral military capability that can deter or be deployed should a significant security threat arise. Because NATO has a military capability in place, the core elements for mobilization, deployment, and sustainment of substantial multilateral military forces already exist. The ongoing training, exercises, and regular communication among the national militaries of NATO members allows them to jump-start preparations and actions when needed without very lengthy preparatory work. This can allow the U.S. government to proceed in shaping and leading military coalitions more quickly, at less cost and with greater effectiveness, than if NATO did not exist and its functional equivalent had to be invented from scratch at a moment’s notice. While the U.S. government retains the capacity and the right to act unilaterally if and when necessary, it makes sense for it to act with others whenever possible, whether through NATO or ad hoc coalitions of the willing. A multilateral framework can provide both political cover and military resources, and the United States very much can benefit from both.

The United States also benefits significantly from NATO’s logistics capabilities. Pontificating about grand strategies sounds impressive, but for military effectiveness and success, logistics capabilities are what really count. For example, while NATO did not formally participate in the 1991 Gulf War, NATO resources, supplies, bases, and other infrastructure provided crucial support prior to and during the U.S.-led coalition military action to force Saddam Hussein out of Kuwait. The coalition in effect borrowed NATO capacities already in existence, and benefitted greatly from equipment compatibility and common training and resources. Other coalitions of the willing assembled under U.S auspices and utilizing NATO resources can follow the same approach.

### Europe ADV – A2 NATO is crappy

#### U.S. coop picks NATO up

W. Bruce Weinrod ’16, January 15, “We Still Need NATO,” THE AMERICAN INTEREST, https://www.the-american-interest.com/2016/01/15/we-still-need-nato/

Essential for NATO effectiveness is renewed U.S. leadership both at NATO and globally. The Obama Administration has been reactive, content for the United States to act as merely one among equals, and has also downgraded the U.S. relationship with NATO. A striking example occurred in March of last year, when NATO Secretary General Jens Stoltenberg requested a meeting with the President, as is traditional for NATO Secretary Generals when they visit Washington, well in advance of his arrival. Yet even though Stoltenberg was to be Washington for several days, he was told that no meeting could be arranged. NATO requires strong U.S. leadership to be truly effective and it has always been the case that when the United States does lead at NATO others follow. This also necessarily means reinforcing the U.S. military presence in the European theater.

While there are some encouraging signs regarding NATO’s response to Russia, it remains to be seen whether NATO’s members will take the necessary steps to ensure its military effectiveness over time. If recent Russian adventurism does not stimulate a rethink of recent trends, NATO could eventually hollow itself out and become of marginal value to the United States. The eventual result would be a serious reassessment of U.S. involvement in NATO, and would play to the advantage of those who wish the United States to renounce its role as provider of common global security goods. The argument would predictably run as follows: We cannot afford to do this alone and be effective at it, so let’s not try to do it at all.

The next NATO Summit to be held in Warsaw this July provides an opportunity for NATO nations to formally commit themselves to continuing NATO’s adaptation to contemporary security threats. In addition to mandating the enhancements described above, NATO should promulgate a common unifying vision that can be understood and supported by both policymakers and the general publics of NATO nations. Given the reality that NATO comprises a community of democratic nations, NATO should highlight its role as the focal point of a global democratic security network that embodies both a shield and, where necessary, a sword, not only ensuring this community’s security but also safeguarding its shared democratic values. The United States, for its part, should take the lead at this Summit in developing and implementing NATO’s continuing adaptation. This means leading from the front while not only halting but also reversing the downgrading of U.S. military capabilities in Europe.

After playing a key role in the collapse of the Soviet Union, NATO has transformed itself into a multi-mission organization addressing 21st-century security challenges while adding new members, establishing global security relationships, and responding to Russian adventurism. NATO has thus demonstrated in the post-Cold War era that it is an organization with the capacity to adapt and even to reinvent itself. But, as Secretary of Defense Robert Gates put it a few years ago, there remains a “real possibility of collective military irrelevance” if NATO fails to address current military deficiencies.

Only strong U.S. leadership, which has been absent in recent years, can catalyze and organize that revival. Perhaps beginning in January 2017 we will again see that kind of leadership.

### Solvency – NATO key

#### Transatlantic cooperation is key to biotech advances\*\*\*

Giddings 3-11-22 {“Prospects for Transatlantic Cooperation in Biotech Policy—A US Perspective,” Val Giddings (A senior fellow at the Information Technology and Innovation Foundation (ITIF). Giddings joined ITIF after nearly three decades of experience in science and regulatory policy relating to biotechnology innovations in agriculture and biomedicine. He works with ITIF to bring intellectual leadership to the examination of the constraints inhibiting innovations in these areas and devising remedies to those constraints. Giddings is also president and CEO of PrometheusAB, Inc., providing consulting services in regulatory compliance, media, and strategic planning to governments, multilateral organizations, and industry clients in the United States and around the world. Before founding PrometheusAB, he served for eight years as vice president for food and agriculture at the Biotechnology Industry Organization (BIO). At BIO, Giddings built a highly regarded program representing global biotech companies in policy, regulation, media, and international affairs. Before joining BIO, he spent eight years with the biotech products regulatory division of the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS). While with APHIS, he was international team leader and branch chief for science and policy coordination. During this time, he gained substantial international experience, serving on the U.S. delegations to negotiate the biodiversity treaty and to the Earth Summit in Rio de Janeiro. Giddings arrived in Washington in 1984 to join the Congressional Office of Technology Assessment, where he worked on studies related to biotechnology, the environment, and regulatory policy. He has also served as expert consultant to the United Nations Environment Programme, the World Bank, USDA, the U.S. Agency for International Development, and numerous companies, organizations, and governments around the world. Giddings received his Ph.D. in genetics and evolutionary biology from the University of Hawaii in 1980.). Information Technology & Information Foundation (ITIF). Published March 11, 2022, Accessed July 6, 2022. <https://itif.org/publications/2022/03/11/prospects-transatlantic-cooperation-biotech-policy-us-perspective/>} – KV/TW

A World of Biological Possibilities. Mutual self-interest provides a strong basis for transatlantic cooperation in biotechnology based on shared recognition of its vast potential to provide solutions to some of civilization’s most pressing problems. Thanks to explosive advances in our understanding of the many ways in which promiscuous nature has been manipulating DNA and RNA for the past billion years, it is widely anticipated that the 21st century will belong to biology.1 We are now at the point where our ability to innovate is constrained less by technical capability than by the limits of our imaginations. Multiple laboratories and companies on both sides of the Atlantic (and throughout the world) are pursuing promising applications, and experience confirms progress would be accelerated by cooperative approaches. But there are some considerable challenges, especially in agricultural and industrial contexts. The most important rate-limiting factor in our ability to harness biological innovations to the challenges of feeding the world, sustaining human and environmental health, and addressing climate change, is the burden imposed by ill-considered regulations. Unless this bottleneck can be unblocked, the enormous potential for transatlantic scientific cooperation will not yield the necessary fruits. Divergent Regulatory Paths: Precaution vs. Openness to Innovation. Existing policies, legislation, and regulations do little or nothing to advance human or environmental safety.2 Born out of understandable caution at the dawn of recombinant DNA technologies, today their most obvious impact is to obstruct and discourage research, development, and deployment of innovative solutions to various challenges.3 This is so despite an abundant record of production and consumption of new biotech products with enviable records of improved safety, superior sustainability, and widespread beneficial economic impacts.4 The benefits are so substantial that a pattern has emerged of farmers breaking the law to acquire and plant improved seeds in countries where governments have lagged in allowing access.5 It is one thing to implement policies and regulations ostensibly designed to ensure safety; it is quite another to ignore vast data and decades of experience around the world to maintain obsolete policies and regulations that add nothing to safety or sustainability, but only impede our ability to use the most innovative, precise, and safest tools to address our gravest challenges.6 In terms of regulatory policy and openness to biological innovations, the width of the Atlantic might be measured better in light years than miles or kilometers. As imperfect as regulations for the products of biotechnology are in North America, they are simply indefensible in Europe.7 The United States decided in 1986, after years of study and consultation, that no new laws were required to ensure the safety of crops and foods improved through biotechnology. This was based on the finding that they present no novel hazards, and foreseeable risks of their development and use fall into categories with which humans have considerable experience from millennia of conventional plant and animal breeding.8 The United States therefore decided to regulate these novel products under existing authorities administered by the Department of Agriculture, the Food and Drug Administration, and Environmental Protection Agency.9 While implementation of this policy, the “Coordinated Framework,” has been far from perfect, it has been sufficiently predictable and science-based to enable an explosion of innovation, new product development, and commercial activity. Consequently, the United States has led the world to the present day wherein crops improved through biotechnology are now the global standard for quality seeds, delivering improved yields, safety, sustainability, and economic productivity around the world, with the lion’s share of benefits accruing on behalf of small farmers in developing countries.10 Europe took a different approach. It is one thing to implement policies and regulations ostensibly designed to ensure safety; it is quite another to ignore vast data and decades of experience around the world to maintain obsolete policies and regulations that add nothing to safety or sustainability. The European Union decided to regulate seeds improved through biotechnology as a novel class governed under new regulations specifically focused on an arbitrary category known as “GMOs” (for “genetically modified organisms”). The conceit was that because they represented gene combinations produced by mechanisms supposedly “not found in nature” (but actually ubiquitous) they must present novel hazards, even though none has ever been identified. These putatively novel hazards, despite the lack of any concrete manifestations, allegedly required dedicated, specific, “precautionary” regulations. The resulting regulatory regime proved so burdensome it led to the general collapse of agricultural biotechnology in Europe, which had played a leading role in its discovery and invention. Permissions for field trials proved almost impossible to obtain, products could not be developed and brought to market, academic labs abandoned the field, and the industry relocated most of its assets and activities to the Americas. And Europe became the world’s largest importer of commodity foods improved through biotechnology, only recently surpassed by China. **Opportunity for Transatlantic Cooperation**. Many scientists in the EU (and around the world) knew from the beginning that this was the wrong approach, yet the EU pushed its model internationally, with aggressive diplomacy, leading to emulation by many countries in the developing world, with equally unhappy results to those seen in Europe.11 But a growing number of scientists, policymakers, and even “green” NGOs that had originally opposed GMOs, now recognize the counterproductive results of this approach and are working to avoid repeating the same mistakes with gene editing. This shines a spotlight on the most important and potentially fruitful opportunity for transatlantic cooperation in biotechnology: **the revival of science-based regulatory regimes in which the degree of regulatory oversight is proportional to the hazards involved, and regulation that enables, rather than discourages** **the safe development of innovative products**. A return to and reaffirmation of these first principles would provide fertile ground for cooperation and coordination globally. Regulatory reform (everywhere, not just in the EU and its emulators, though the need is greatest there) provides fertile ground for transatlantic cooperation and coordination. We have robust models of proven approaches.12 **Without such cooperation, other progress in developing and deploying innovative solutions through biotechnology will be** impeded or foregone**.** As to national security risks, just as with other risks, novelty attributable to biotechnology is elusive. **One can do very nasty things with conventional bioweapons**, **and they are easily magnified with recombinant DNA techniques**. At the same time, **defensive capacities are also buttressed by biotechnology**, as demonstrated by the rapid development of mRNA vaccines against SARS-CoV-2. There has been some good work done in this area, but this **topic is worth exploring at greater depth**. **The OECD has a track record of thoughtful analyses with such topics**. **One possibility would be to build on that foundation by establishing a joint OECD/NATO working group to serve as a forum.**

#### NATO cooperation is key, NATO countries guarantee sufficient resources, EU members agree its indispensable

**NATO Summit,** Nato LOL, ,**22** (NATO Summit, 06-29-2022, NATO, "Strategic Concept", https://www.nato.int/nato\_static\_fl2014/assets/pdf/2022/6/pdf/290622-strategic-concept.pdf, accessed on 7-7-2022, NATO, ,FLC )

47. Investing in NATO is the best way to ensure the enduring bond between European and North American Allies, while contributing to global peace and stability. We will continue to reinforce our political unity and solidarity and to broaden and deepen our consultations to address all matters that affect our security. We commit to reinforce consultations when the security and stability of an Ally is threatened or when our fundamental values and principles are at risk.

48. We will share equitably responsibilities and risks for our defence and security. We will provide all the necessary resources, infrastructure, capabilities and forces to deliver fully on our core tasks and implement our decisions. We will ensure our nations meet the commitments under the Defence Investment Pledge, in its entirety, to provide the full range of required capabilities. We will build on the progress made to ensure that increased national defence expenditures and NATO common funding will be commensurate with the challenges of a more contested security order.

49. NATO is indispensable to Euro-Atlantic security. It guarantees our peace, freedom and prosperity. As Allies, we will continue to stand together to defend our security, values, and democratic way of life.

#### NATO is a key actor in biotech regulation because of their massive influence in global norms

Ehlert ‘21 (Why our values should drive our technology choices?, Ulf Ehlert, head of Strategy and Policy in the Office of the Chief Scientist at NATO headquarters, https://www.nato.int/docu/review/articles/2021/12/16/why-our-values-should-drive-our-technology-choices/index.html, Date Accessed 7-7-22) -JVK

Setting norms – a role for NATO? Emerging and Disruptive Technologies (EDTs) came into NATO’s political focus in 2019, when NATO leaders adopted an implementation roadmap for seven such technologies. Regardless of their tremendous promise, we must realise that these technologies are not yet mature, not yet “fully out there”. Therefore, considerable uncertainty remains to which extent these fledgling technologies and their foreseeable applications are appropriately contained within established legal, ethical, and moral norms. These questions are not limited to military applications, nor do they stop at national borders: rather, they cut across many government departments and business sectors, and they affect humanity in its entirety. In this complex, fast moving, high-stake setting, we must view technology and values as intertwined. While our values should guide our use of technology, we must recognise that our technology choices will, whether intended or not, reflect the values we adhere to. As inaction is not an option, we must take active measures to establish norms for the future use of technologies; norms that are deeply rooted in our values; technologies that are currently emerging and have recognised disruption potential (such as AI, biotechnology, and quantum technology). How could we realistically master this novel challenge? The following three proposals could pave the way. We must effectively cope with the uncertainties of technology evolution. Hence, I suggest evolutionary policy-making, building on current knowledge, but flexible enough so that today’s decisions can be adjusted or corrected in the future. We must strive to limit potential harm without unduly constraining the benefits a technology can bring. Therefore, our policies should set limits for the application of technologies (such as genetically optimised super-soldiers) rather than banning entire technology areas (in this case, biotechnology). We need to understand when policy changes are necessary and what those changes should be. Reflecting the diversity of interests, we need to institutionalise a broad stakeholder engagement that reaches out to all parties affected by a technology and influencing its evolution. Within this broadly applicable framing, NATO’s role is specific. As the international organisation committed to defence and security in the North Atlantic area, it convenes considerable political, military, economic, and technological power. Building in particular on its political and intellectual capital, the Alliance can credibly spearhead norm setting for technology applications in defence to comply with Western values. With its recently published AI Strategy, NATO fulfils its traditional role in an innovative way. This Strategy embraces principles of responsible use, which express the value-driven norms that NATO and its member nations will adhere to in the application of AI. By making these principles public, they set an example for other nations to consider and potentially adopt NATO’s principles. This is an effective approach towards proposing and gradually implementing an international norm, not unlike the European Union’s General Data Protection Regulation. At the same, NATO responds to the globally distributed innovation landscape. The NATO2030 initiative highlights the need to forge new coalitions with likeminded partners beyond the North-Atlantic region. This broad outreach should not only extend to governmental organisations, it should in general expand the types of partners to collaborate with (even within Allied nations), to include non-governmental organisations, the private sector, academia, and civil society.

## 2AC off-case

### 2AC DAs – USFG link uniqueness

#### Pentagon already focused on biotech

Lui and Liao ‘20 (Jingyuan Liu and Kai Liao, Ph.D. at Indiana University School of Medicine, couldn’t find other person, 12/17/2020, “Biotechnology: the Pentagon’s next big thing, <https://blog.oup.com/2020/12/biotechnology-the-pentagons-next-big-thing/>) 6/25/2022

Biotechnology has long been an important field of scientific research. But until recently, it has never been formally considered by any military as a significant technological investment opportunity, or a technology that could revolutionize the conduct of war. For example, the Pentagon’s Defense Science Board (DSB), that helped then Secretary of Defense Harold Brown identify technologies central to the second offset strategy in 1976, and helped then deputy Secretary of Defense Robert Work identify AI as the key for the third offset strategy in 2014, explicitly opted not to include biological threats in its analysis of known surprises in 2009. Neither did it include biotechnology in the list of key investment opportunities to avoid surprise in 2013.

However, recent studies by the DSB and the National Security Commission on AI (NSCAI) indicate that the Pentagon has changed its mind. It is now preparing for a new biotech revolution in military affairs (RMA), or a new offset strategy, in order to win the long-term strategic competition with China.

In contrast to its previous studies, the DSB’s latest report published in September concludes that, “the threats and opportunities presented by new bio-enabled capabilities will be significant, and the DoD must ensure it does not fall behind other nations lest it lose its technological edge to competitors in a field that may play a transformational role.” Following the study’s recommendations, the DoD established an Assistant Director for Biotechnology in 2019. The NSCAI went so far as to argue that, “the combination of advances in AI and biology have the potential to reshape the global economy for the next century.” It reached a similar conclusion that China’s weaponization of biology would pose a significant threat to US national security. And biotechnology would be central to the future geostrategic competition.

Drawing on the “first offset” and “second offset” strategies, the forthcoming offset strategy is working under the assumption that a combination of AI and biotech might actually transform the conduct of war. This strategy, in essence, will be an effort to build on US’s own enduring strengths and exploit China’s enduring weaknesses and vulnerabilities. The following measures are likely to be employed for this military-technical competition.

First, marshalling international partnerships to develop a strategic technology plan to compete with China. As Michael Brown and William Perry did in the 1970s, the Pentagon will identify the most demanding operational challenges the US and its allies would face in a conventional war versus China, and develop a strategic technology plan to support this offset strategy. Allies and partners is one of the US’s key advantages over China. The US has been creating a coalition of coalitions, or a system of systems with its allies to compete with China. NSCAI Commissioner Jason Matheny urges the US to “coordinate AI developments with NATO and making India the focus of the United State’s Indo-Pacific AI strategy to counter China.” And this is in line with Joe Biden’s idea of forging a technological future with its allies.

Second, developing operational concepts and making organizational changes that fully exploit the available technologies. The interwar experience suggests that militaries that do better in developing operational concepts, and making organizational changes will prevail. US National Defense Strategy (NDS) argues that, “success no longer goes to the country that develops a new technology first, but rather to the one that better integrates it and adapts its way of fighting.” China is relatively slow in creating new concepts of operation, and even slower in making organizational adaptations. PLA Lieutenant General Liu Guozhi, the director of the Central Military Commission’s Science and Technology Commission, is frustrated, saying that “change of mindset is very hard, overcoming obstacles from interested groups is even harder. But those two problems often exist simultaneously.” In other words, it takes China longer to convert technological advances into military capabilities. If the US moves fast enough, China will always be a follower learning from and responding to the US’s way of war.

Third, drawing on cold war strategies, the US will resort to grey zone operations in order to impose costs on China. NSD is concerned about China’s grey zone activities and determined to push back against China with all measures short of war. Inspired by the case of Poland’s Solidarity in the 1980s, the US and its allies have launched a global name-and-shame campaign on Xinjiang, Hong Kong, South China Sea issues, as well as Chinese influence operations in Australia. Those information campaigns successfully helped them disrupt China’s 5G roll-out in Europe. It seems that they will double down on this approach by launching an information campaign against China Standards 2035, and “a strategic communications campaign to highlight BGI’s links to the Chinese government and how China is utilizing AI to enable ethically problematic developments in biotechnology and strengthen international bioethical norms and standards regarding genomics research.”

### 2AC DAs – NATO link uniqueness

#### Their link is not unique – NATO is expanding biotech now

NATO 5-30-22 {“NATO launches Innovation Fund,” NATO. Published June 30, 2022, Accessed July 7, 2022. <https://www.nato.int/cps/en/natohq/news_197494.htm?selectedLocale=en>} – TW

On Thursday (30 June 2022), at a signing ceremony hosted by NATO Secretary General Jens Stoltenberg, Leaders and Ministers from 22 Allied countries\* [\*Belgium; Bulgaria; Czech Republic; Denmark; Estonia; Germany; Greece; Hungary; Iceland; Italy; Latvia; Lithuania; Luxembourg; Netherlands; Norway; Poland; Portugal; Romania; Slovakia; Spain; Türkiye; United Kingdom. *(footnote found at bottom of webpage)*]launched NATO’s Innovation Fund, the world’s first multi-sovereign venture capital fund. "This fund is unique", the Secretary General said, "with a 15-year timeframe, the NATO Innovation Fund will help bring to life those nascent technologies that have the power to transform our security in the decades to come, strengthening the Alliance’s innovation ecosystem and bolstering the security of our one billion citizens." **The Fund will invest 1 billion euros in early-stage start-ups and other venture capital funds developing dual-use emerging technologies of priority to NATO. These include: artificial intelligence;** **big-data processing**; **quantum-enabled technologies; autonomy; biotechnology** and **human enhancement**; **novel materials**; **energy**; **propulsion** and **space**. The Fund will complement NATO’s Defence Innovation Accelerator for the North Atlantic – or DIANA – which will support the development and adaptation of dual-use emerging technologies to critical security and defence challenges. There has also been significant progress for DIANA at the 2022 Madrid Summit where Allies agreed that innovators participating in DIANA’s programs will have access to a network of more than 9 Accelerator Sites and more than 63 Test Centres across Europe and North America.

### 1AR DAs – link uniqueness

#### The summit wasn’t hype

Atlantic Council June 30, 2022, “The triumphs and question marks from this week’s NATO summit,” FAST THINKING, https://www.atlanticcouncil.org/content-series/fastthinking/the-triumphs-and-question-marks-from-this-weeks-nato-summit/

While most NATO meetings are “choreographed to showcase solidarity,” Chris tells us, “the feeling on the ground in Madrid is that this summit genuinely delivered the goods.” Leaders managed to overcome concerns about potential cracks appearing because they “under-promised and over-delivered on a diverse agenda, showcasing tangible progress on a number of issues.”

And thanks to Turkey lifting its blockade of Finland and Sweden’s bids for membership, he adds, Madrid became an “enlargement summit” and “served to highlight NATO’s democratic culture: What might have been a narrative of allies and partners bickering instead showed those divisions as a source of strength” as Alliance members worked “through their differences constructively.”

Gabriela notes that if the theme of last year’s Brussels summit was “the US is back,” this year’s was “the West is back.” She adds: “NATO is emerging from this week with more unity on the political and military fronts than it has had in a generation.”

### 2AC NATO Focus DA

#### NATO unity is jacked post-summit

Global Times June 30, 2022, “‘Unity of NATO’ a disguise of its existential crisis,” https://www.globaltimes.cn/page/202206/1269395.shtml

Erdogan achieved his political goals with this move, and the fact that NATO is internally scattered has come to the fore. The divisions within NATO grow as more countries are dragged in. The US hopes to bridge the divisions within NATO, but it's difficult to cater to all needs.

On the issue of the Russia-Ukraine conflict alone, there are different demands among Western countries, as Germany, France and Italy want to stop the war as soon as possible, and the US is calling on all NATO countries to make a common cause against Russia. Wang Shuo, a professor at the School of International Relations of Beijing Foreign Studies University, believes that in this situation, many European countries are questioning whether NATO can solve the crisis in Ukraine. If it cannot work, what's the point of NATO's existence? At the moment when Europeans believe that NATO needs to play a role, it proved itself disunited and incompetent, another sign of NATO's existential crisis.

#### Russian federation is the main focus of NATO now, NATO wants to enhance resilience, key to check Russia

**NATO Summit,** Nato LOL, ,**22** (NATO Summit, 06-29-2022, NATO, "Strategic Concept", https://www.nato.int/nato\_static\_fl2014/assets/pdf/2022/6/pdf/290622-strategic-concept.pdf, accessed on 7-7-2022, NATO, ,FLC )

8. The Russian Federation is the most significant and direct threat to Allies’ security and to peace and stability in the Euro-Atlantic area. It seeks to establish spheres of influence and direct control through coercion, subversion, aggression and annexation. It uses conventional, cyber and hybrid means against us and our partners. Its coercive military posture, rhetoric and proven willingness to use force to pursue its political goals undermine the rules-based international order. The Russian Federation is modernising its nuclear forces and expanding its novel and disruptive dual-capable delivery systems, while employing coercive nuclear signalling. It aims to destabilise countries to our East and South. In the High North, its capability to disrupt Allied reinforcements and freedom of navigation across the North Atlantic is a strategic challenge to the Alliance. Moscow’s military build-up, including in the Baltic, Black and Mediterranean Sea regions, along with its military integration with Belarus, challenge our security and interests.

9. NATO does not seek confrontation and poses no threat to the Russian Federation. We will continue to respond to Russian threats and hostile actions in a united and responsible way. We will significantly strengthen deterrence and defence for all Allies, enhance our resilience against Russian coercion and support our partners to counter malign interference and aggression. In light of its hostile policies and actions, we cannot consider the Russian Federation to be our partner. However, we remain willing to keep open channels of communication with Moscow to manage and mitigate risks, prevent escalation and increase transparency. We seek stability and predictability in the Euro-Atlantic area and between NATO and the Russian Federation. Any change in our relationship depends on the Russian Federation halting its aggressive behaviour and fully complying with international law.

#### NATO is increasing defenses in order to deter Russia

Stratfor 22 June 30, 2022 Stratfor [Vijapure] https://worldview.stratfor.com/article/placing-nato-s-new-strategic-concept-context

The updated Strategic Concept was announced during the June 29-30 NATO summit in Madrid. The Madrid summit was the first held since the alliance’s March 24 extraordinary meeting to coordinate a response to Russia’s Feb. 24 invasion of Ukraine. In response to these changing priorities and threat perceptions, NATO also announced changes in its force posture, including the expansion of its rapid reaction force and new U.S. deployments on Russia’s borders. NATO plans to increase the size of its rapid reaction force nearly eightfold by next year, from 40,000 to 300,000 troops, following Russia’s invasion of Ukraine. The United States, in particular, plans to significantly expand its military presence in Europe. On June 29, President Joe Biden announced Washington will establish a permanent headquarters in Poland for the U.S. 5th Army Corps, send 5,000 additional troops to Romania, and increase rotational deployments in the Baltic states (namely, Estonia, Latvia and Lithuania). The United States will also send two additional squadrons of F-35 fighter aircraft to the United Kingdom, station additional air defense systems at bases in Italy and Germany, and increase the number of naval destroyers in Rota, Spain, from four to six.

#### NATO sees both Russia and China as threats

Stratfor 22 June 30, 2022 Stratfor [Vijapure] https://worldview.stratfor.com/article/placing-nato-s-new-strategic-concept-context

NATO’s first update to its Strategic Concept in 12 years underscores the foundational shifts in the Western security alliance’s priorities and threat perceptions as the Russia-Ukraine war rages on, China expands its reach in Asia, and temperatures rise across the world. On June 29, the North Atlantic Treaty Organization (NATO) unveiled its new Strategic Concept outlining the alliance’s guiding principles, purpose and goals. The document, which was last updated in 2010, identifies Russia as “the most significant and direct threat” to NATO members’ peace and security amid [Moscow’s ongoing aggression in Ukraine](https://worldview.stratfor.com/article/what-fall-mariupol-means-russias-war-ukraine). NATO lists China as a strategic “challenge” for the first time as well, citing Beijing’s “[coercive policies](https://worldview.stratfor.com/article/beijing-backed-information-campaign-targets-western-rare-earth-industry).”

### 2AC Fund CP

#### NATO fund fails – can’t magically expand NATO’s budget, U.S. cooperation is key to talent and development

Nelson 21 {“*Getting NATO Innovation Right*,” Nicholas Nelson (A Non-resident Senior Fellow for Emerging Tech and Policy with the Transatlantic Defense and Security Program at the Center for European Policy Analysis (CEPA). Nicholas Nelson is an experienced leader in aerospace and defense (A&D), working at the nexus of innovation and national security. In addition to his work at CEPA, Mr. Nelson is Senior Technology Advisor at the Georgia Tech Research Institute (GTRI), focused on emerging defense and dual-use technologies. He also advises a range of deep tech venture-backed startups. Previously, he was the Director of Strategic Development at a six billion dollar A&D and technology company, leading strategy, mergers and acquisitions, and corporate venture capital initiatives. Prior to this, Mr. Nelson worked in management consulting and technology scouting in Europe and North America, as well as civilian roles with the U.S. Department of Defense. His research and writing are focused on emerging defense technology, hypersonics, unmanned systems, and great power competition. His analysis and writing have been featured in Defense News, National Defense Magazine, DefenceiQ, and SpaceNews. Mr. Nelson was elected as a Fellow of the Royal Society for the Encouragement of Arts, Manufactures and Commerce in 2017 and is also the Think-Visegrad Fellow at EUROPEUM). CEPA. Published [June 18, 2021, Accessed July 6, 2022. https://cepa.org/getting-nato-innovation-right/.}](June%2018,%202021,%20Accessed%20July%206,%202022.%20https://cepa.org/getting-nato-innovation-right/.%7d%20) – TW

The Defense Innovation Accelerator and NATO Innovation Fund announced at the NATO Summit are welcome developments, **but they require new authorities and differentiated talent**. Swift technological change has meant governments and the military created new organizations and approaches to innovation and rapid acquisition. Unfortunately, many do not have the necessary authority, budget, or workforce to succeed, meaning that meaningful change and impact have been sacrificed for theater. For the newly announced Defense Innovation Accelerator North Atlantic (**DIANA**) – with planned locations in Toronto and Cambridge, UK – and the NATO Innovation Fund (NIF) to succeed, **they must address authority and budget concerns**, and then bring in the right personnel to lead and staff them. Authorities. There are three key authorities that NATO must get right for DIANA andNIF: reporting lines, patience (or willingness to accept failure), and decision making. First, DIANA and NIF should operate independently with a direct line into the most senior decision-makers (the Secretary General, SACEUR, Supreme Allied Commander Transformation — SACT, etc). Second, they need to be allowed to fail. The most impactful defense organizations (and indeed commercial organizations, particularly in the startup world) normalize taking big bets, with the knowledge that many will likely fail, and even the ones that succeed may take years to realize their full impact. Third and finally, these new NATO bodies need to invest in or provide support to initiatives and startups without requiring external permission or consensus. At the same time, they also need a clear transition partner for promising capabilities to be handed off to (e.g. DARPA transitioning tech to the U.S. Department of Defense), which can move from development to deployment. **This will enable the Alliance to more readily identify, develop, and deploy emerging and disruptive technologies.** Similar efforts including the U.S. Department of Defense’s DARPA and Defense Innovation Unit, CIA’s In-Q-Tel, and USAF’s Strategic Capabilities Office, are effective because they exist outside of traditional bureaucracies, leverage non-traditional talent strategies, and have consistent budgets. Budget. Allocating funding seems obvious, but too often limited forethought is given to this issue. To ensure success, organizational funding must be significant, multi-year, and consistent or include inbuilt annual growth. A number of high-potential initiatives have either been announced with no dedicated funding or have had sizable funding gaps in subsequent years damaging their brand and relationships with defense companies and startups alike. The NIF in particular will likely rely on the willingness of Alliance members to make contributions beyond other NATO obligations. If so, multi-year commitments are crucial, as are success metrics, such as return on investment, which are rarely used within NATO or national government departments. Talent. Finally, and most overlooked, is getting talent right. External talent is crucial. It is not enough to simply construct new organizations staffed in the traditional manner. To realize their full potential, NATO must attract talent with startup and/or venture capital (VC) experience, and pair them with top subject-matter experts from R&D communities, both government, and commercial. This cannot be done with NATO’s current Byzantine, long, drawn-out hiring process, which can last six months or even longer, and advantage insiders versus external candidates. As such the Alliance must engage and attract this talent. The good news is NATO has a number of potential examples to draw on for potential hiring pathways. In the U.S. the Defense Digital Service hires design and technical experts for one-to-two “tours of duty,” using their skillsets and operate outside the traditional civil service. In the UK, strategy and technology professionals are seconded into the Ministry of Defence, the Department of Trade, and intelligence organizations such as GCHQ, to provide experience or skills that may not exist within the current civil service workforce. But providing pathways alone is not enough: attracting this talent to apply and convincing them to join is just as important. This requires identifying areas where they might work, including industry, academia, and startups, and VC. At the same time, other steps are needed. Upskilling existing NATO civilians – among the international and international military staff (IS and IMS) — and Alliance service members are needed to address this skill and understanding gap. To do so, it is helpful to expose them to startup and VC environments. Programs like Shift’s Defense Ventures Program in the U.S. have succeeded in building understanding between the Department of Defense’s civilian and military workforce and startups and VCs. They’ve done so by bringing in high-performing defense personnel for eight-week immersions with growing venture-backed startups or VC firms. This cultivates the necessary connective tissue between startups, VCs, and the military. NATO could readily follow a similar process by providing its highest performers the opportunity to temporarily work alongside leading North American and European startups and investors. What’s Next? Accelerating the development, deployment, and integration of emerging and disruptive technologies into the strategic and tactical environments is at the core of future NATO operations. The Alliance’s move to build DIANA and NIF, along with incorporating the right language into strategic documents are significant first steps. But building these initiatives from scratch will require significant planning to establish the right authorities, budget, and talent environment to enable these organizations to thrive. **In order to do so, they need to build outside of traditional NATO structures and models while creating a differentiated talent and organizational culture.**

### 2AC EU CP

#### EU market fragmented and bogged down by regulations

Ronte, **Hanno, et al.** 20**22,** “Deciding on the Right Path.” *Deloitte Insights*, Deloitte, https://www2.deloitte.com/us/en/insights/industry/life-sciences/expanding-into-european-biotech-industry.html.

Whether based in the US or in a European country, biotech and pharma companies have continued to look to expand in(to) Europe (including the UK), as their top priority. However, some have struggled to make a success of their attempts at European geographical expansion. The most relevant and recent example of this is US-based Bluebird Bio. Following unsuccessful negotiations with national agencies (e.g. in Germany) to try and launch their first drug in Europe, Zynteglo executives made the decision to wind down their operations and focus their business on the US.1

Nonetheless, Europe remains an important market for biotech companies (biotechs) launching their new drugs, as it accounts for over 20 per cent of the total global pharma market.2 In this piece, we explore how best to expand into Europe.

A complex and fragmented market

The European market is complex and fragmented. It comprises 31 markets across Europe, including the UK and Switzerland. Biopharma products require regulatory approval from the European Medicines Agency (EMA) and/or the Medicines and Healthcare products Regulatory Agency (MHRA) for the UK. In addition, some nations (e.g. Italy) require approval from their own local/regional regulatory authorities.3 There are also distinct healthcare systems, separate health technology assessments (HTA) and reimbursement processes for each market. Additionally, recent changes to EU regulations (for example, the Clinical Trial Regulation and new Medical Device/IVD Regulation)4 and other market uncertainties, such as cross-border collaborations and their potential impact on market access, are making it increasingly difficult for biotechs to forge ahead.5 Given all these changing dimensions, determining how best to expand effectively has never been more crucial.

#### EU lags behind US and China in biotech development now – fails to solve as well

Matthews 22 (David Matthews; experienced writer for the Science|Business news source, “*EU fears falling behind in race to control key technologies*” [https://sciencebusiness.net/news/eu-fears-falling-behind-race-control-key-technologies] Accessed 7/6/22, TR)

In a future-gazing report, the **Eu**ropean Commission has **warned** that control over technology is an increasingly crucial geopolitical battleground, and that the EU is **losing the** investment **race in** quantum computing, 5G, **a**rtificial **i**ntelligence and **biotech**nology. The communication, released on 29 June, concludes that, “The EU’s currently **limited capacity** in some horizontal technologies weakens its position.” It cites figures from the consultancy McKinsey showing an investment gap with the US, and in many cases China. Half of all quantum computing companies are in the US, 40% are in China, and none are in the EU, warns the Commission’s report, which focuses on how Europe will steer through a digital and environmental transformation of its society and economy. In artificial intelligence, the US attracts 40% of investment funding. Asia, including China, has a 32% share, but Europe lags with just 12%. On 5G, the next generation telecoms network, China attracts 60% of investment, far ahead of Europe’s 11% share. And **US investments** into biotechnology **dwarf** those made in **Eu**rope. Unsurprisingly, the report urges big increases in spending on R&D. “The EU will need to leverage additional private and public long-term investments in […] R&I across critical technologies and sectors, uptake and synergies between technologies, human capital, and infrastructures,” it says. It doesn’t specifically mention research funding programmes as a solution, but instead suggests deepening EU banking and capital market integration to allow more private investment. There are also indications of which specific technologies the Commission sees as key to greening the economy. Most notably, the report mentions nuclear “small modular reactors” as an important part of sustainably offsetting the increasing power demands of the digital sector. These are mini nuclear reactors that can be manufactured in a factory rather than assembled onsite. So far they are unproven, but a US-based company has plans to build one in Romania, with US government financial backing. The Commission also moots the idea of electric aircraft connecting small regional airports throughout the EU. Digital tech can help make Europe greener, through smarter control over power grids and transport systems, the report says. But the digital sector is also expected to be an increasingly hungry consumer of energy, powering everything from consumer computers to data centres and minting cryptocurrencies. ICT is thought to be responsible for 5-9% of global electricity use. Reflecting a shift in Brussels towards the prioritisation of scientific links with fellow democracies, the Commission’s report recommends a “proactive research and innovation agenda with like-minded partners.”

### 2AC CP – cbw treaties

#### Treaties fail – evolving international governance structures of biotech is key

Philip Breedlove and Margaret E. Kosal ’19, February 25. General Philip Breedlove (U.S.AF, ret.) served as Supreme Allied Commander Europe from 2013 to 2016 and is now a distinguished professor at the Sam Nunn School of International Affairs at the Georgia Institute of Technology. Dr. Margaret Kosal is an associate professor at the Sam Nunn School, where she focuses on technology, strategy, and governance, “Emerging Technologies and National Security: Russia, NATO, & the European Theater,” HOOVER INSTITUTION, https://www.hoover.org/research/emerging-technologies-and-national-security-russia-nato-european-theater

Most international legal and regulatory approaches to technologies and to emerging technologies—robotics, biotechnologies, synthetic genomics, gain of function research, nanotechnology, cognitive neurosciences, hypersonics, AI—are still driven by 20th-Century (or earlier) conceptions and institutions. Past methods for other technologies that do not take into account the international nature of the science and the industry are not adequate. Any international regime or approach must be interdisciplinary in focus, cognizant of the multi-polar post-Cold War world, and appreciate the role of private funders, commercial development, and transnational corporations. To be clear, there’s a lot of good in the arms control and nonproliferation existing institutions. Rather, these challenges are primarily political rather than technical. Being able to navigate and affect policy at the interface of science and international affairs is where we have immense value.

The tension between adoption and governance of technology must be considered as part of the balance of power. The utility of treaties may be better viewed as more than only a guarantee against using a weapon. Weapons treaties were never an ironclad guarantee that weapons would not be used. Treaties provide stability, reduce uncertainty; enable dialogue, and are confidence building measures. The utility of weapon prohibition treaties as balancing should not be ignored, not because of an idealized imagination that prohibition effectively and permanently limits proliferation or use of a technology but because the act of meeting, networking, building relationships, and negotiating provides a forum for interacting and addressing underlying issues. From this standpoint, governance approaches should be integral to an integrated military strategy for future capabilities development, not the afterthought that attempts to put the metaphorical genie back in the bottle.

### 2AC Conditions CP

#### Security cooperation within NATO must be insulated from outside issues or political divisions will multiply

James B. Steinberg ‘3, “An Elective Partnership: Salvaging Transatlantic Relations,” BROOKINGS, https://www.brookings.edu/wp-content/uploads/2016/06/steinberg20030601.pdf

But there was an agreed institutional framework – NATO – for addressing these difficulties, which facilitated cooperation both on articulating the strategy and on implementing the necessary political measures. NATO provided at least the de jure element of equality through the consensus rule and the European NATO Secretary General, while reflecting the US dominance in command structures led by an American SACEUR. Transatlantic harmony was further facilitated by insulating security cooperation to the European theatre – differences over ‘out of area’ problems, ranging from Vietnam to the Middle East to the Contra War in Central America may have divided European governments and the United States, but had little spillover effect within NATO itself.

# BIOTECH NEG

### Inherency lite – U.S. biotech resilient and strong

#### U.S. biotech industry is resilient and strong

**Cancherini et al.,** MIT SLoan Grad, ,**21** (Laura Cancherini, Joseph Lydon, Jorge Santos da Silva, and Alexandra Zemp, 4-30-2021, McKinsey & Company, "What’s ahead for biotech: Another wave or low tide?", https://www.mckinsey.com/industries/life-sciences/our-insights/whats-ahead-for-biotech-another-wave-or-low-tide, accessed on 7-6-2022, McKinsey & Company, ,FLC )

Deal growth was mostly driven by the United States, where the average deal size doubled and the number of deals increased by 25 percent. 3 3. IQVIA PharmaDeals, January 2021. China and Europe also saw strong growth as they started to catch up from a smaller base.

IPO activity has grown faster than any other category of fundraising, with companies raising $34.3 billion in 2020, an increase of 186 percent on the previous year. Although US biotechs represented the lion’s share of IPOs, companies based elsewhere, particularly in China, have also seen significant growth in the past few years. Biotechs tend to source opening capital from their local stock market, with the United States (mainly NASDAQ) being the preferred nonlocal option.

As part of our research, McKinsey asked biotech executives whether they were likely to seek an IPO in the next few years and, if they did, whether they would look for capital at home or abroad. The answers were mixed. Some biotechs want to make the most of their local network and feel more comfortable listing at a market they know; others prefer to follow investors, crossing oceans if need be. But they all agreed on choosing a market where biotech and science are not seen as a risky investment, which often means a foreign stock exchange, and specifically a US one.

As the pandemic spread across the globe in early 2020, biotech leaders were initially pessimistic, reassessing their cash position and financing constraints. When McKinsey and BioCentury interviewed representatives from 106 biotech companies in May 2020, 4 4. See “COVID-19: Reimagining biotech in 2021,” webinar, BioCentury, July 8, 2020, biocentury.com. half of those interviewed were expecting delays in financing, and about 80 percent were tight on cash for the next two years and considering trade-offs such as deferring IPOs and acquisitions. Executives feared that valuations would decline because of lower revenue projections and concerns about clinical-trial delays, salesforce-effectiveness gaps, and other operational issues.

Belying this downbeat mood, biotech has in fact had one of its best years so far. By January 2021, venture capitalists had invested some 60 percent more than they had in January 2020, with more than $3 billion invested worldwide in January 2021 alone. 5 5. BCIQ, January 2021. IPO activity grew strongly: there were 19 more closures than in the same period in 2020, with an average of $150 million per raise, 17 percent more than in 2020. Other deals have also had a bumper start to 2021, with the average deal size reaching more than $500 million, up by more than 66 percent on the 2020 average (Exhibit 3). 6 6. IQVIA PharmaDeals, January 2021.

The analysis above does not include special-purpose acquisition companies (SPACs), which have recently become significant in IPOs in several industries. Some biotech investors we interviewed believe that SPACs represent a route to an IPO. How SPACs will evolve remains to be seen, but biotechs may be part of their story.

When we asked executives and investors why the biotech sector had stayed so resilient during the worst economic crisis in decades, they cited innovation as the main reason. The number of assets transitioning to clinical phases is still rising, and further waves of innovation are on the horizon, driven by the convergence of biological and technological advances.

In the present day, many biotechs, along with the wider pharmaceutical industry, are taking steps to address the COVID-19 pandemic. Together, biotechs and pharma companies have more than 250 vaccine candidates in their pipelines, along with a similar number of therapeutics. What’s more, the crisis has shone a spotlight on pharma as the public seeks to understand the roadblocks involved in delivering a vaccine at speed and the measures needed to maintain safety and efficacy standards. To that extent, the world has been living through a time of mass education in science research and development.

Biotech has also benefited from its innate financial resilience. Healthcare as a whole is less dependent on economic cycles than most other industries. Biotech is an innovator, actively identifying and addressing patients’ unmet needs. In addition, biotechs’ top-line revenues have been less affected by lockdowns than is the case in most other industries.

Another factor acting in the sector’s favor is that larger pharmaceutical companies still rely on biotechs as a source of innovation. With the top dozen pharma companies having more than $170 billion in excess reserves that could be available for spending on M&A, the prospects for further financing and deal making look promising.

For these and other reasons, many investors regard biotech as a safe haven. One interviewee felt it had benefited from a halo effect during the pandemic.

The investors and executives we interviewed agreed that biotech innovation continues to increase in quality and quantity despite the macroeconomic environment. Evidence can be seen in the accelerating pace of assets transitioning across the development lifecycle. When we tracked the number of assets transitioning to Phase I, Phase II, and Phase III clinical trials, we found that Phase I and Phase II assets have transitioned 50 percent faster since 2018 than between 2013 and 2018, whereas Phase III assets have maintained much the same pace. There could be many reasons for this, but it is worth noting that biotechs with Phase I and Phase II assets as their lead assets have accounted for more than half of biotech IPOs. Having an early IPO gives a biotech earlier access to capital and leaves it with more scope to concentrate on science.

Looking forward, the combination of advances in biological science and accelerating developments in technology and artificial intelligence has the potential to take innovation to a new level. A recent report from the McKinsey Global Institute analyzed the profound economic and social impact of biological innovation and found that biomolecules, biosystems, biomachines, and biocomputing could collectively produce up to 60 percent of the physical inputs to the global economy. The applications of this “Bio Revolution” range from agriculture (such as the production of nonanimal meat) to energy and materials, and from consumer goods (such as multi-omics tailored diets) to a multitude of health applications.

Our interviews with biotech executives and investors suggest that if the industry is to maintain its recent strong growth, it will need to address three key areas: building talent, handling complexity, and improving commercial and development execution.

As one biotech investor put it, “There is much more capital available than talent.” Many companies struggle to attract and retain executives with experience in biotech, business development, and commercialization. In addition, a third of the executives and investors we interviewed think that European biotechs lack a sufficiently entrepreneurial mindset. Clinical-development expertise is also in short supply.

The talent pool has been growing in recent years, particularly in the United States, with Europe, China, and other regions still a ways behind. Some companies are establishing a global footprint early on to target the widest possible talent pool, such as the European biotechs that have set up US affiliates and distributed their business-development, access, marketing, and strategy teams across continents. Other biotechs are experimenting with outsourcing models, keeping select talent in-house but looking outside the organization for multiple specialist capabilities. Whichever approach companies choose to pursue, their ability to build, attract, and retain biotech talent will be fundamental to their success.

As well as staying on top of accelerating technological and biological advances, biotechs must navigate an increasingly complex ecosystem of competitors, service providers, investors, and customers. We see three challenges for the future. One is for biotech companies to rethink supply chains in order to facilitate the scale-up of new biologic innovations and technologies, such as personalized therapies and cell and gene therapies. A second challenge is to maintain focus on the business while dealing with a new financing and investing ecosystem that includes novel investment vehicles such as SPACs, an increasing number of noninstitutional investors, and a broadening of the geographic footprint of investors. The third challenge, for smaller biotechs in particular, is simply to keep up with the speed of technological evolution.

A recent McKinsey analysis of launch performance shows that first-time launchers have a lower share of successful launches than their more experienced peers. Many struggle to realize the expected value from their launches: the median first-time launcher reaches just 63 percent of analysts’ expectations, compared with 93 percent for experienced launchers.

Clearly, scientific promise does not necessarily translate into business performance. A stronger focus on execution could help biotechs create more value from their assets and technologies. For instance, investing early to develop a deep understanding of the market in relevant disease areas could help biotechs make better decisions about how to position their product in relation to competitors’ offerings, both during clinical development and in the marketplace. Biotechs could also benefit from tailoring their go-to-market approaches to the needs and potential of their products rather than the resources available to them. Having defined an appropriate go-to-market approach, they could then work to secure sufficient funding or set up partnerships to support it.

Biotechs also have scope to improve the pace and quality of their clinical development, which is critical in meeting investors’ expectations and securing funding. As innovation increases, so does competition for clinical-trial sites and investigator capacity. Getting to market quickly requires biotechs to intensify their focus on clinical operations, plan early, and find ways to derisk clinical development.

Biotech is unlike any other sector. Buoyed up by advances in science and technology, it bucked the downward trend seen in many industries and attracted record levels of investment through 2020 and into early 2021. More broadly, the pandemic has brought biological science to the attention of patients, families, healthcare workers, healthcare suppliers, governments, and agencies worldwide. What remains to be seen is whether biotechs and their ecosystems can continue to scale up rapidly and keep riding the wave for some time to come.

### Bioterror NEG – no risk

#### Bioterrorism is Neither Likely Nor Practical

**Zinkgraf,**,**15** (Samuel Zinkgraf, 9-29-2015, Phcintelligencer, "Bioterrorism: Neither Likely Nor Practical – The Intelligencer – Patrick Henry College", http://www.phcintelligencer.com/2015/10/12/bioterrorism-neither-likely-nor-practical/, accessed on 7-7-2022, Phcintelligencer, ,FLC

The historical record demonstrates that weaponized biological agents have been used infrequently and ineffectually. Terrorists want to spread destruction by any means they can. If bioterrorism really was effective, more terrorist groups likely would have used pathogens as weapons by now. The absence of widespread bioterrorism helps to show the gap between current misconceptions and reality. One gram of anthrax contained within one of the letters in 2001 had enough spores to kill thousands of people. Combined, the amount of anthrax used in the attacks could have killed millions.10 Yet the attacks only killed five. Even though the anthrax terrorist had enough biological agent to kill millions, he did not have the capability to distribute his weapon effectively. As the Aum Shinrikyo biological attacks demonstrated, even a sophisticated group of scientists working to incite global Armageddon can find it difficult to actually execute biological attacks.

Terrorists have to overcome a number of challenges in order to effectively convert biological agents into weapons of mass destruction. The use of a pathogen as a biological agent depends on the group’s ability to isolate a virulent strain, weaponize it, and then distribute it. If the group could successfully isolate a dangerous genetic strain, it would then turn to two possible methods of distribution: aerosolized spray and human carriers.11 Most non-state actors do not possess the technology necessary to refine the aerosol method. Wind patterns and humidity can render such an attack ineffective. The human carrier method is less expensive but also has a number of problems. It requires the pathogen to be a contagion. Once the carrier is infected, he must be mobile while contagious and cannot be visibly ill—a situation that is unlikely with serious diseases like Ebola.11 All other possible means of delivering a biological agent are fraught with even more problems.

### China NEG – not rising

#### China won’t surpass U.S. in biotech

Scott Moore ’20, “CHINA’S ROLE IN THE GLOBAL BIOTECHNOLOGY SECTOR AND IMPLICATIONS FOR U.S. POLICY,” GLOBAL CHINA, https://www.brookings.edu/wp-content/uploads/2020/04/FP\_20200427\_china\_biotechnology\_moore.pdf

Yet on the other hand, while China’s biotechnology sector will almost certainly continue to grow in scale, sophistication, and competitiveness, there is little reason to believe on current trends that the United States will lose its edge in the sector. Indeed, the biggest risk to the global competitiveness of the U.S. biotechnology industry likely comes from the prospect of declining public investment and reduced mobility for world-class researchers and industry professionals. Moreover, the COVID-19 crisis underscores both the importance of continued investment in biotechnology and the many challenges to promoting effective international cooperation on global health security.

#### Patents indicate US biotech remains in the lead

Ivypanda ‘19 ("Biotechnology Development and the U.S. Economic Hegemony Research Paper” <https://ivypanda.com/essays/biotechnology-development-and-the-u-s-economic-hegemony/>) 7/6/2022

Another indicator of gauging a country’s competitive position is in the assessment of the number of patents issued to individuals or institutions of that country.15

According to the U.S. Patent and Trade Office (USPTO), a patent awards ownership rights to a person who “invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 16 By this definition, patents are undoubtedly an indicator of future value and national might in a technology, product or industry.

By this measure, the United States position seems to be very strong. United States assignees lead all other countries in patents issues by the USPTO.

According to an examination by the USPTO of patents in the United States and in other countries, U.S. origin inventors and owners have the most biotechnology-related U.S. patents by a wide margin and the most biotechnology-related patent publications internationally, but by a slimmer margin. Additionally, the USPTO analysis established that U.S. assignees have the most biotechnology-related inventions that have patent publications in three or more countries.

The figure placed at 31.7% is a strong indication of a more aggressive pursuit of international intellectual property protection and, by supposition, of its professed potential value. By this measurement, the United States is followed by Japan (26.9%), Germany (11.3%), Korea (6.6%), and France (3.6%).17

There has been quick growth in biotechnology patents in the USPTO and European Patent Office (EPO) patent databases. A study conducted in 2007 established that the number of U.S. biotechnology patents in the USPTO and EPO databases grew at a close exponential pace between 1980 and 2004.

The study showed that each year from 1990, U.S. assignees have taken up an approximate of two-thirds of all patents in the USPTO database. In 2004, U.S. assignees took up 66.9% of USPTO biotechnology patents. An earlier examination of USPTO data, covering patents from 1976 to 2002 also indicated U.S. biotechnology patent leadership, with the United States accounting for over 67% of patents, followed by Japan, Germany, France, and Canada.18

Although patents have shortcomings when it comes to assessing future competitiveness in terms of economic gains, there is no doubt that, the United States is leading in this area. If the recent trend is anything to go by, then there is no doubt that the U.S. will maintain its competitive edge in biotechnology development.19

### China NEG – coop not conflict

#### China and the U.S. depend on each other which incentivizes biotech coop

Rob Carlson and Rik Wehbring ’20, “TWO WORLDS TWO BIOECONOMIES,” National Security Report, JOHNS HOPKINS https://www.jhuapl.edu/Content/documents/Carlson\_Wehbring-Biotech.pdf

The bioeconomies of the two nations may be similar in size but are configured differently. The United States relies on China for manufacturing (for example, 75 percent of active pharmaceutical ingredients), for services (for example, DNA sequencing), and for talented students who come to study and work at US universities. Meanwhile, China depends on external basic research to support a bioeconomy focused on commercialization of innovations created elsewhere. In the short term, decoupling would be painful for both countries. In the long term, it would be easier for the United States to replace manufacturing capacity and academic labor than it would be for China to find globally, or to replicate within China, a basic research and academic infrastructure that is the equivalent to that of the United States.

#### China doesn’t want hegemony

David P. Goldman ’22, January 3, “Why does the West think China wants global hegemony?” ASIA TIMES, https://asiatimes.com/2022/01/why-does-the-west-think-china-wants-global-hegemony/

Americans think that China aspires to world hegemony, while Professor Wen contends that the aspiration to hegemony as such is the fatal flaw of empires past and present. Americans will dismiss Wen’s analysis as Chinese dissembling, but they would be mistaken to do so.

China’s exaggerated assertion of sovereignty in the South China Sea, its island-building campaign and attempts to intimidate its neighbors give Washington reason to assume the worst about China’s intentions. But China never has been a hegemonic power in the past, certainly not in the sense of the British Empire or Soviet Communism. Nor does it intend to become such a power in the future.

America’s Cold War triumph, Wen believes, was simply “the most recent decisive victory” in a long series of contests with other putative hegemons, including “the Spanish Empire, the Dutch Empire, the French Empire and the German Empire.”

China, adds Professor Wen, was a bystander to the Great Power competition for hegemony during the 1960s and 1970s. This in turn was a contest within a “small world,” between Western civilization and Eastern Orthodox civilization, in which the non-Christian civilizations – Chinese, Indian and Islamic – had limited stakes. This “battle for world hegemony within ‘Christian civilization’ is unacceptable,” he concluded: “World hegemony exercised in the name of liberalism must be opposed by the people of the world, and world hegemony exercised in the name of communism also must be opposed by the people of the world.”

Hegemons have an invariant characteristic. Real empires run deficits. Imports made up half of the food supply in Pericles’ Athens, paid for by tribute exacted on threat of annihilation.

Profesor Graham Allison notes in his 2017 book Destined for War, “Athens [during the Thirty Years’ Peace] continued to use its powerful navy to dominate – and extract gold from – its own subjects throughout the Aegean. It amassed a strategic reserve amounting to the previously unheard-of sum of 6,000 talents of gold, and was adding 1,000 talents per year in revenue.”

When the island of Melos resisted, Athens massacred its population in 416 BCE.

The Roman Empire kept between 5 and 8 million slaves, requiring 250,000 to 400,000 new slaves per year, in Walter Scheidel’s estimate. That required ever more wars of conquest.

The Spanish Empire, Fernand Braudel reported in his classic study The Mediterranean in the Age of Philip II, sent all the bullion wrung from the conquered New World to China to pay for silks and spices.

And all the wealth accumulated by China returned to the West when Britain compelled it at cannon-point to buy Indian opium. Opium in 1837 accounted for 57% of China’s imports, and opium smokers paid 100 million taels (about 130 million ounces of silver) yearly for the drug when the Imperial government stood at just 40 million taels.

America doesn’t force its trading partners to buy opium, but its chronic trade deficits have produced a $13 trillion negative net foreign asset position. America’s borrowings from the rest of the world include $8 trillion of Treasury securities held by foreigners and about $16 trillion in dollar-denominated foreign bank deposits, which constitute de facto loans to the United States.

Historic China accumulated vast wealth through the exports of silk, tea, porcelain and other goods, but it never built an imperial economy like Athens, Rome or Britain. Agriculture was centered on the extended family farm rather than slave-based latifundia.

Unlike Rome, which constructed roads to speed its armies from Mesopotamia to Britain, China built walls to keep invaders out. The Qin dynasty which gave China its name, consolidated power through infrastructure, including the Dujiangyan on the Min River that turned the Sichuan plain into China’s breadbasket.

Unlike Greeks, Romans, Spaniards, Englishmen and Americans, the Chinese never sent their armies or large numbers of colonists around the world.

When I wrote of “China’s plan to Sino-form the world” in my 2020 book, I referred to the export of China’s digital infrastructure to the Global South, in the ultimate exercise of soft power.

Its 5G broadband, fast trains, e-commerce, e-finance, telemedicine and other Fourth Industrial Revolution technologies well may transform backward economies into little Chinas, starting in Southeast Asia.

China surely aspires to return to first position in world manufacturing technology, which it held from the beginning of recorded history until the 18th century, and it will try to extend its influence and power by dominating the new technologies enabled by fast broadband.

In a sense, China’s strategic use of infrastructure, physical as well as digital, bespeaks a certain continuity from the Qin era. Massive investment in flood control, river transport and irrigation created China, and the export of Chinese infrastructure well may hard-wire a great deal of the world into China’s economy.

But China is indifferent to how we barbarians govern ourselves. Elsewhere Professor Wen has compared the character of the Chinese, a settled people for thousands of years, to that of Westerners, who (as he put it) only recently walked out of the jungle.

I think that he is quite unfair to us. But the point is that the Chinese have no intention of imposing their political system on the United States; they do not believe we are capable of such enlightened governance.

The Soviet Union, I should add, fell not only because it overreached, but because the United States responded to its hegemonic ambitions by starting a revolution in military technology. From this we derived every important invention of the digital age, from mass-produced computer chips to optical networks.

China is well aware of this: Its promotion of dual-use technologies, as I wrote in the Wall Street Journal in 2020, is adapted from America’s best practice.

If China has no hegemonic ambitions, Western analysts ask, why has it built a navy worthy of a hegemon? With 355 ocean-going vessels, the Peoples Liberation Army Navy has more ships than the US – although much lower tonnage.

A November 2021 Pentagon report warned: “As of 2020, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air and anti-submarine weapons and sensors … This modernization aligns with the PRC’s growing emphasis on the maritime domain and increasing demands for the PLAN to operate at greater distances from China.”

At this writing, China has only one overseas military base, on the Horn of Africa at Djibouti, built for anti-piracy operations. The US has 750 bases. There have been unconfirmed reports of Chinese attempts to build military facilities in the UAE and Equatorial Guinea, but they do not add up to a campaign for global military supremacy.

#### US. and China are cooperating now

AACR ‘20 (AACR, 3/3/2020, China Biotech Scene, U.S. Collaborations Grow, <https://aacrjournals.org/cancerdiscovery/article/10/3/336/2506/China-Biotech-Scene-U-S-Collaborations-GrowChina>) 6/27/2022

In recent years, however, “the government became really invested in encouraging innovation,” enacting several policy and regulatory changes, says Li Yan, MD, PhD, chief medical officer of Brii Biosciences. China’s National Medical Products Administration (NMPA) initiated a hiring spree, drastically increasing the number of reviewers in its Centre for Drug Evaluation. In 2018, the agency shortened the review process for clinical trial applications from an unlimited amount of time to 60 days—on par with the 30-day process in the United States.

“Previously, it was almost impossible to do simultaneous development in both the U.S. and China because the China cohort was going to be so far behind,” Berlin explains, but now concurrent trials are feasible. NMPA has also begun conducting more stringent reviews of clinical trials. As of 2016, the government no longer requires Chinese biotech companies to manufacture their own drugs—now they can outsource to contract manufacturers rather than building facilities. In 2017, the government began updating its National Reimbursement Drug List annually instead of every 5 years—and has since added many innovative drugs. The NMPA was also invited to join the International Council for Harmonisation, which has helped China align its drug-development regulations with international standards. In addition, the Hong Kong Stock Exchange began listing companies before they generate revenue, thus giving them earlier access to public funding.

“These reforms have really changed the landscape for both Chinese biotechs, as well as Western biopharma companies operating in China,” Berlin says. The changes are paying off. There are now hundreds of Chinese biotechs—many clustered in BioBay, an industrial park in Suzhou. One is CStone, which is developing immunotherapies and targeted agents for cancer, focusing on malignancies such as gastric and liver cancers that are more common in China than in other countries. The company has 10 agents in 28 clinical trials, including five late-stage candidates. Notably, CStone, founded in 2015, is developing several therapies in collaboration with two U.S. companies—Blueprint Medicines and Agios. Such partnerships are becoming increasingly common as China’s biotech scene grows. “These reforms have actually provided for a lot more opportunity for Western companies to partner with Chinese biotechs on drug development as well as commercialization,” Berlin says.

#### Framework for cooperation already exists

Moore ‘20 (Scott Moore, April 2020, director of China Programs and Strategic Initiatives at the University of Pennsylvania and a political scientist who researches emerging technology including biotechnology, CHINA’S ROLE IN THE GLOBAL BIOTECHNOLOGY SECTOR AND IMPLICATIONS FOR U.S. POLICY, <https://www.brookings.edu/wp-content/uploads/2020/04/FP_20200427_china_biotechnology_moore.pdf>) 6/25/2022

The second category of policy responses involves cultivating biotechnology as an area for U.S.-China bilateral cooperation. Initially, this might build on existing Track II efforts and take the form of an intergovernmental dialogue on biosafety and biosecurity. The 2018 CRISPR baby scandal high- lighted China’s critical role in global biosafety and biosecurity.57 Subsequent events like the COVID-19 pandemic have further underscored the importance of establishing a regular, high-level mechanism for joint efforts toward securing the use of gene templates, exotic microbes, and other biological threats and hazards. At the same time, the growing threat of synthetic bioterrorism using genetically modified viruses or microbes presents an enormous shared security threat for the United States, China, and other major powers. Cooperation to strengthen biosafety and biosecurity protocols worldwide might open a significant new frontier for U.S.-China cooperation, similar to cooperation on nuclear security and nonproliferation in recent decades.58 There are promising signs that China may be receptive to such cooperation. In an unusual 2019 speech to the National People’s Congress, President of the Chinese Academy of Sciences Bai Chunli commented, for example, that “The United States is not only the leading country in biomedical research, but also the first country to develop biosafety regulations and legislation.”59

#### Partnerships make sense and will continue

AACR ‘20 (AACR, 3/3/2020, China Biotech Scene, U.S. Collaborations Grow, <https://aacrjournals.org/cancerdiscovery/article/10/3/336/2506/China-Biotech-Scene-U-S-Collaborations-GrowChina>) 6/27/2022

These partnerships make sense, Yan adds, because they leverage the strengths of each company. U.S. businesses tend to have expertise in drug discovery and designing and running clinical trials, whereas Chinese firms have access to a large patient population and understand China’s regulatory landscape, including how to get drugs approved and to market. Therapies are also starting to move in the other direction. In 2019, the FDA approved BeiGene’s Bruton tyrosine kinase inhibitor zanubrutinib (Brukinsa) for patients with mantle cell lymphoma—the first U.S. approval of a drug developed in China. The agency also designated Chi-Med’s angio-immuno kinase inhibitor surufatinib (HMPL-012) as an orphan drug for pancreatic neuroendocrine tumors. More U.S. corporations are making deals to license Chinese drugs, too. For example, Lilly partnered with Innovent Biologics in 2015 to develop Innovent’s PD-1 inhibitor sintilimab (Tyvyt).

To be sure, obstacles remain. Many researchers are returning to Chinese biotechs after gaining education and experience elsewhere, yet companies need to continue expanding talent at the highest levels, especially in running clinical trials. “The competition for talent in China is very acute now,” Berlin notes. Recent investigations into intellectual property theft by Chinese researchers in the United States have bred some mistrust between the countries. Additionally, the U.S. government recently expanded the scope of the Committee on Foreign Investment in the United States, potentially hindering Chinese investment in U.S. biotechs.

Despite these challenges, Jiang is hopeful that collaboration will continue. The United States and China are the two largest oncology markets, he notes, “and there’s every incentive for the countries to get together and have complementary contributions.”

#### U.S. will cooperate with China as they rise – risk of nuclear was is hype

Jayathilaka 22 (Aruna Jayathilaka; lecturer in Political Science at Sabaragamuwa University in Sri Lanka, “*Are the China and USA Heading for a War? Can they Avoid the ''Thucydides Trap?*'' [https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=4075526] Accessed 7/7/22, TR)

According to Graham Allison, there are some possible **avenues** for both the **China** and **US**A to **avoid** possible **war**-tension. Firstly both the camps should realize that the 'War between nuclear superpowers is madness'. Both China and the USA own robust nuclear arsenal; hence leaders must recognize that **war would be suicidal**. The second lesson for both parties is to 'Leaders must be prepared to risk a war they cannot win'. It is clear that if war occurs, **both** nations **lose**, and millions die — an option no rational leader could choose. (Allison, The Thucydides Trap, 2017). Nevertheless, if a nation is unwilling to risk war, its opponent can win any objective by forcing the more reliable power to yield. Consequently, leaders must be willing to select paths that threaten destruction. The third lesson defines the new "precarious rules of the status quo." These rules include **armscontrol treaties** and precise road **conventions** for air and sea. The fourth lesson is that parties should understand that '**Domestic** performance is **decisive**.' Domestic issues of a country will have an impact upon international matters. (Allison, The Thucydides Trap: Are the U.S. and China Headed for War?, 2015). By establishing compromises on problematic areas, the US and China might clear the way for **coop**eration **on** challenges like global **terror**ism and **climate** change, where the two countries' **shared national interests outnumber** their **differences.** Overall, leaders must recognize that their **existence is contingent on** prudence, communication, limitations, **compromise, and cooperation**. As Allison points out, dwindling civic involvement, institutionalized corruption, and a general lack of faith in politics are all concerning indicators of the American democracy. Both countries' leaders would do well to emphasize their domestic issues by improving residents' quality of life. Finally, parties need to understand that hope is not a strategy. Allison views that if the USA hopes to avoid catastrophic war with China while protecting and advancing American national interests, lessons of the Cold War should be well studied. Both the camps need to be aligned with strategic thinking rather than relying on hope. (Allison, Avoiding the Thucydides Trap, 2018) Most of the scholars view that, a new structure for the bilateral relationship is required, taking into account key areas of rivalry and collaboration. Harvard Professor Joe Nye expressed hope that the United States will have enough time to handle China's ascent without falling into the second element of the trap: overreaching out of fear (Coker, 2015). According to Allison, the US and China **have significant national interests in preserving** the **survival** of their respective countries and must work together to resolve concerns that have clouded the economic relationship. This means coming up with new laws to account for China's unparalleled economic growth and global power status. In addition, policymakers should consider the appeal for a world that is "safe for variety" followed by the ' Cuban Missile Crisis '. This development would allow countries with diverse political systems, economic development methods, and philosophies to peacefully coexist (Allison, Avoiding the Thucydides Trap, 2018).

### Hegemony bad – China war

#### US hegemony will lead to escalatory war with China

**Blair 21** (Blair, D. (2021). Will Liberal Hegemony Lead to a Cold War in Asia?. In: Wang, H., Michie, A. (eds) Consensus or Conflict?. China and Globalization. Springer, Singapore. https://doi.org/10.1007/978-981-16-5391-9\_3, Date Accessed 7-7-22) -JVK

1 The Pax Americana and the Cold War The American-led system has secured a long Pax Americana in the sense that there have been no great power wars and both Western Europe and East Asia have been largely peaceful. General public opinion in many countries recognizes the benefits of this system. A Eurasia Group survey published in April 2020 found that across Asian countries, with the exception of China, 77% of respondents agreed that the United States would be preferable as a global leader for their country and 79.1% of respondents said that US leadership was better for the world overall. In China, almost half the respondents said that US influence in the region was very or somewhat negative with just 6.8% reporting a very positive view.1But, Americans themselves are even less favorable to a US-led international order. In another Eurasia Group poll, published November 2019, 57.6% of American respondents said that the US should reduce its military presence in Asia while transitioning regional allies to defend themselves. 47.1% said that the US should refrain from military intervention when Americans are not directly threatened and only 19.4% would support a US-led response to humanitarian abuses abroad.2 The US was willing to maintain large military expenditures and economic generosity to allies during the long cold war largely because there was an enemy that was perceived to be evil. In his inaugural address on January 20, 1961, President John Kennedy famously said: “Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe, in order to assure the survival and the success of liberty.” And, as Kennedy predicted, the Cold War cost the US a lot of blood and treasure. The long wars in Korea, Vietnam, and, after the Cold War, in the Middle East have cost trillions of dollars and many lives. They have also had very damaging effects on US institutions and culture. Are Americans willing to pay a huge price to protect an international system if neither American interests nor core ideals are at risk? The first Gulf War seemed to confirm the idea that future military intervention by the US and its allies would be quick, easy, and relatively painless. It created the illusion that the US military would be able “to intervene easily, far from our homeland and close to the homeland of our enemies.”3 But, this dream that we were approaching Frank Fukuyama’s “end of history” did not last long.4 For a while, until roughly 2010, it looked like the ideal international regime might exist in East Asia. The US military in the region was so dominant that intervention was unnecessary and many thought that the nations in the region, especially China, would move toward liberal domestic regimes. There are some vague ideas that there might be an EU-led system, but that assumes that the world is a very peaceful place. In the early 1990s, there was a brief period where it looked like we might be entering a world system resembling a European Union writ large: (1) where military conflict looked impossible in much of the world, (2) where US and allied military power was so overwhelming that police-like actions could easily manage the rest of the world, (3) where disagreements among nations were settled by multilateral rules-based organizations, and (4) where the US/Western European democratic capitalist system looked so superior that most of the world was expected to converge on this model. None of those conditions holds true today. In his well-known 2014 book Restraint: A New Foundation for U.S. Grand Strategy, 5Barry Posen ofMIT argued that liberal hegemonists believe that “the United States can only be truly safe in a world full of states like us…” In the early 2000s, many Americans believed that China was on an inevitable path to become “like us” and thus was not an adversary. But, now few American strategists see China on a this path and thus see it as a strategic rival and probable future cold or hot enemy. The US has no vital interests in Asia in the sense that the long-term livelihoods of average American people would be drastically harmed if current ties with Asia were reduced. As Chinese production has risen over the past 20 years, many Americans have gained from cheaper imports of a large variety of goods, interest rates and inflation rates have probably been reduced, and tech supply chains have been optimized. But, going back to the trade status quo as of 1995 or even 1975 would not be devastating to Americans. Many would gain as factories moved to North America. In the very extreme case that all trade would be cut off, mines in Nevada and other places would need to reopen to supply so-called “rare” earths, raising gadget prices a bit. A rational purely economic calculus of US interests would not find these impacts to be worth fighting, or even risking, a war over. The major issues at stake in Asia center on the economic interests of US allies and on maintaining American liberal hegemony there, not on direct US economic or homeland-protection interests. American military strategy has long been based on the idea of force projection— that US forces have the capability to intervene all around the world. For decades, the US could intervene in East Asia with little fear of being countered, except in Korea. As we saw in the 1996 Taiwan Straits incident, the US could intervene without firing a shot, so there was little danger of escalation. In the late 1990s, the US could thus maintain a liberal hegemony regime in East Asia without too much risk or expenditure and did not need an enemy to justify its military expenditures. Now, US intervention in East Asia would be both highly risky and vastly expensive. Recent Chinese investments in “carrier-killer” missiles seriously weaken the US ability to project power in seas adjacent to China. China often points out that it spends a fraction on defense of what the US does, but that is irrelevant. The strategic goals that each country hopes to achieve with its forces are what is really relevant. To reach its goals, the US has to build and maintain the capability to project power across an ocean and intervene against a Chinese military with rapidly rising power to destroy US Navy ships. One danger is that we are getting into a spiraling arms race. China is building anti-carrier weapons. Leading the US to build up its forces. Leading to more Chinese arms expenditures and a vicious cycle. Another danger is that neither side can predict its own behavior or that of the other side if an incident occurs. If some kind of incident occurs at sea, will China shoot at US carriers? What happens if they sink one? Will the US attack missile batteries on Chinese territory? The risks of unwanted war and escalation are very real. Are these risks and costs worthwhile for the US? Probably not if we are just propping up a vague international trading regime. But, the American people can probably be convinced to support this strategy if they can be convinced they are opposing another evil empire. Neither side appears to want this outcome. Almost everyone in China recognizes that the country has benefited greatly from US-led liberal hegemony in the region and that American military withdrawal could make the region much more risky. But, most Chinese also support the military buildup that is a factor in changing the system. Would China really benefit from pushing the US out of East Asia? Similarly, few in the US look forward to another cold war or more military misadventures in Asia, but we seem to be adopting policies that lead in that direction.

### Hegemony bad – China heg good

#### The era of US hegemony is over – China’s rise presents a new and innovative way to address world challenges and initiate global cooperation

1. Belt-and-Road Initiative good – turns case

Amineh 22 (Mehdi P. Amineh; writer from the University of Amsterdam, “*The China-led Belt and Road Initiative and its Reflections: Introduction*” [https://www.taylorfrancis.com/books/edit/10.4324/9781003256502/china-led-belt-road-initiative-reflections-mehdi-amineh?refId=7e0a77eb-04f7-401d-a835-e7d208a1e162&context=ubx] Accessed 7/7/22, TR)

In Chapter 8 Mehdi P. Amineh, Laura Linck, and Emre Demirkiran explore the **BRI** activities in Kazakhstan, Iran, and Turkey. The authors analyze three key BRI member states: Iran and Turkey in the Middle East and Kazakhstan in Central Asia. Each of these selected countries has a substantial population and/or considerable territorial expanse, and Iran and Kazakhstan have important hydrocarbon reserves. Two of them, Turkey and Iran, have relatively **diversified industries**. Both are militarily active beyond their state borders. Accordingly, the three countries have different external policies. China needs to overcome differences among them by creating enough common ground to induce regional governments to cooperate with China’s BRI. There are numerous publications on the origin, nature, and activities of the BRI. However, empirical case studies on the opportunities and **challenges** for each of the countries along the BRI are **limited**. The objective of this work is to fill in that gap by investigating the BRI’s activities in Kazakhstan, Iran, and Turkey through a comparative case study. The theoretical orientation of this work is founded on geopolitical economy. This approach combines states with cross-border, regional, and world economic processes in the global political economy. This research argues that the engagement of Chinese companies in infrastructure development and the energy sector in Kazakhstan, Iran, and Turkey not only **increases** geo-economic **opportunities** for development **and cooperation** but also increases China’s geopolitical share of influence. In Chapter 9, Hooman Peimani focuses on **Iran** as a **re-rising** power in Eurasia and West Asia with emerging claims to other regions. Iran is now seeking to **restore its** historical **role as** the major Eurasian cargo transportation **hub for econ**omic, political, and security gains by expanding its influence in the regions of Western interest. By sharply decreasing the transportation time between Asia and Europe and also Africa to rival the currently used Southern route via the Suez Canal, such a hub has the potential to drastically reduce Iran’s heavy reliance on oil and gas export revenues and even possibly outshine them. Iran’s strategic objectives coincide with those of China’s Belt and Road Initiative (BRI) and also Russia’s International North-South Transportation Corridor (INSTC), which became a reality about two decades ago as a trilateral plan of Moscow, Tehran, and New Delhi, and practically complements the BRI. Yet, the full realization of Iran’s objective requires heavy investment in the Iranian maritime and land transportation infrastructure by its Asian and European beneficiaries, which have mostly been deterred by the US-imposed sanctions on Iran. While the 2021 Vienna talks may not end the sanctions, Iran’s rampant state corruption and the undeclared low-level war between Iran and Israel could further damage Iran’s objective, prospects which could be successful even if Iran’s transportation routes’ current users continue and expand their use for the bulk of their Asian-European trade. In Chapter 10, WANG Yongzhong gives a survey of **China’s** worldwide **investments** **in** the **energy** sectors **of BRI member states**. Based on the project-level data from Dealogic, fDi Intelligence, and the American Enterprise Institute and Heritage Foundation, the author conducts an investigation into China’s outward energy investment in the Belt and Road countries in terms of the scale, industrial structure, geographical distribution, main investors, mega-projects, and risk profile. China’s outward energy investment has steadily **diversified from** the **fuel energy** sector, particularly mergers and acquisitions (M&A) in the oil industry, into the electrical power generation sector. For Chinese capital, there is **no** obvious **difference in the risk** of energy **investment** between BRI countries **and the rest of the world**, and **actually** BRI countries’ **risk is lower** than average. It is worth noting that the share of troubled Chinese energy transactions shows large fluctuations and has rebounded strongly since 2016. Wang argues that it is expected that China’s energy sector M&A in BRI countries will lose momentum, while greenfield investment in energy infrastructure has greater potential. In Chapter 11, XU Xiujun describes the possible impacts of the BRI on global governance. According to the author, global governance still faces the problems and challenges of escalating global protectionism and unilateralism, increasing challenges in global economic governance, and declined or failed effectiveness of global governance mechanisms. Xu presents the **BRI as a new platform for addressing global problems and challenges through** **interconnection** and common development. In the field of global governance, the **BRI** has **promoted** the conceptual development and **innovation of global governance**, the **coordination** and innovation of global governance mechanisms, and the **achievement of new** **results in key areas** of global governance. Under the new circumstances, in order to shape new dynamics of global governance, it is necessary to continuously **create favorable conditions** and an environment **for BRI countries** to participate in global governance, **consolidate their advantages** in global development governance, and strengthen institutionalized BRI cooperation.

### Europe NEG – no backsliding

#### European democratic backsliding is exaggerated – several indicators are trending up

Staffan I. Lindberg ’18, July 4, the director of the Varieties of Democracy (V-Dem) Institute and professor of political science at the University of Gothenburg. “The Nature of Democratic Backsliding in Europe,” CARNEGIE EUROPE, https://carnegieeurope.eu/2018/07/24/nature-of-democratic-backsliding-in-europe-pub-76868

Europe has seen six shifts in regime classification over the past ten years. Hungary, Lithuania, Poland, and Slovakia lost their status as liberal democracies and transitioned downward to be electoral democracies. Several of these transitions have been drawn out over several years, but the autocratization of Poland is notably picking up speed and most of the changes in Warsaw have occurred between 2015 and 2017.

Fortuitously, only one full democratic breakdown has occurred so far. In Serbia, autocratization has gone so far that democracy is no longer upheld, even in its most limited sense of electoral only. In another instance of slow-moving developments where the government changed its nature in an incremental fashion over many years, Serbia has become an electoral authoritarian state.

Only Albania has transitioned to a better state of affairs, now qualifying as a liberal democracy.

Overall, the evidence points in the direction of democracy losing significant ground in Europe.

WHAT IS CHANGING IN EUROPE?

V-Dem’s data can also help identify which aspects of democracy are diminishing and which are holding up more strongly. The index for liberal democracy consists of the index for electoral democracy and three indices capturing more specific liberal concerns: the protection of civil liberties by the rule of law and both judicial and legislative constraints on the executive.

The index driving most of the downward trend in recent years is the measure of electoral democracy (see figure 3), which has registered the largest drop between the various indices.

Plotting the twenty-five indicators that go into V-Dem’s index of electoral democracy shows the number of countries in Europe that have significantly improved or declined on each indicator between 2007 and 2017 (see table 2).3

Notably, the indicators measuring the freedom of expression and alternative sources of information have declined significantly in many countries while improving in very few—just one country has seen improved media self-censorship and two have seen less media bias in favor of the government. In addition, indicators from the clean elections index that measure civil society’s ability to organize freely without being repressed or prevented from existing also suggest democratic backsliding.

At the same time, almost all indicators that measure purely electoral aspects in the clean elections index show improvement. In particular, the extent to which the elections are free and fair in procedural terms and the quality of the voters’ registry—two of the most fundamental indicators ­related to elections—record more countries improving than declining.

This gives a detailed depiction of the current trend of democratic backsliding in Europe. Some ruling elites are clearly on an undemocratic quest, but the electoral institutions that most observers think of as representative of democracy have so far been robust or even improving.

### Europe NEG – coop limited

#### EU-US relations are dysfunctional – no durable solvency

Blockmans ‘21, Steven. 2021, “EU-US Relations: Reinventing the Transatlantic Agenda.” Intereconomics,<https://www.intereconomics.eu/contents/year/2021/number/1/article/eu-us-relations-reinventing-the-transatlantic-agenda.html>

President Donald Trump’s unabashed unilateralism has hurt EU-US relations. He has called the European Union a “foe” and “worse than China, just smaller” (Kwong, 2018). He celebrated Brexit and has encouraged other member states to leave the bloc. He has bullied democratic leaders such as Angela Merkel and embraced autocrats like Viktor Orbán. The latter has not helped the EU institutions in their search for supranational mechanisms to enforce compliance with rule of law conditions for membership.

Not only did the 45th President of the United States refuse to re-engage with the transatlantic trade and investment partnership (TTIP) agenda, which Barack Obama abandoned, but he also imposed “national security” tariffs on steel and aluminium imports from European allies and threatened that more might follow.1 He also subjected European businesses to American extra-territorial jurisdiction more enthusiastically than any of his predecessors, in particular over his withdrawal of the US from the Iran nuclear deal (see Stoll et al., 2020).

Trump’s retreat from the Paris climate deal, the Intermediate-Range Nuclear Forces treaty, the Open Skies agreement, and the World Health Organization (WHO) as well as his attacks against the WTO appellate body have rocked many Europeans’ belief that they share common ground with their most important ally. In fact, Trump has been disdainful of European priorities, from climate change and efforts to improve global health, to human rights and development assistance.

As a result, **US relations with the EU have become largely dysfunctional,** and this comes at a time when unprecedented global health, economic and security challenges demand robust transatlantic leadership.

To be sure, **transatlantic disarray is not solely due to Trump**. After more than a decade of crisis management, the EU has seemed as likely to fall apart as to come together over the COVID-19 pandemic. The coronavirus crisis has ravaged societies and economies. Whereas EU member states reached a political agreement on a historic recovery package and a seven-year financial framework, those debates have also **revealed ongoing differences on rule of law conditionality** in the disbursement of funding that could widen once the worst of the pandemic is over.

### Democracy NEG – NATO fails

#### Internal divisions prevent NATO from protecting democracy

Ashley Parker, Marianna Sotomayor and Isaac Stanley-Becker April 29, 2022, “Inside the Republican drift away from supporting the NATO alliance,” THE WASHINGTON POST, https://www.washingtonpost.com/politics/2022/04/29/nato-republicans-trump/

But for some, the changes are not enough. Rep. Warren Davidson (R-Ohio), who voted against the recent resolution, said he objected not to NATO but to its future direction, which in his view places too large a burden on the United States and involves too much promotion of specific values.

The resolution’s affirmation of “unequivocal support” risks being mistaken for unconditional support, Davidson said. When asked whether he could envision the United States exiting the alliance — as Trump considered with former advisers — Davidson said the real issue is rather whether other member nations who are not spending sufficiently on defense should leave the club.

“Is there a point where America would consider pulling out? It’s something we should discuss,” said Davidson, an Army veteran who was stationed in Germany when the Berlin Wall fell in 1989. “The better question is whether there’s a point where we would say to other member countries, ‘This might not be your place — you’re disinvited.’”

Davidson said he objected in particular to the resolution’s endorsement of the Center for Democratic Resilience, which he called an “entity designed to meddle in other countries’ domestic politics.”

Disagreements have broken out among member nations over the erosion of democracy within the alliance, with criticism directed in particular at Turkey, Hungary and Poland. A Central European diplomat said objections to the democracy center reflect admiration for the likes of Hungary’s Viktor Orban in other Western nations.

### Democracy NEG – NATO resilient

#### US-NATO ties are ironclad

U.S Department of State ‘22, “The Ironclad U.S. Commitment to NATO - United States Department of State.” U.S. Department of State, U.S. Department of State, 23 June 2022, https://www.state.gov/the-ironclad-u-s-commitment-to-nato/.

Confronting Security Challenges Together

The transatlantic relationship is built on a foundation of shared values, and NATO has been the cornerstone of an unprecedented period of peace and prosperity for more than 70 years.

NATO is the essential forum for transatlantic security – the only place where the United States meets daily with our Allies to address shared security challenges together. The U.S. commitment to NATO Allies and Article 5 of the Washington Treaty is ironclad, and Allies are united in their shared mission to defend the Euro-Atlantic community, deter aggression, and project stability.

As it approaches its 73rd year, NATO is the most powerful and successful Alliance in history. Today, NATO provides security for approximately one billion people in Europe and North America.

The United States stands shoulder to shoulder with our Allies and NATO partners in NATO missions in Europe, the Mediterranean, and Iraq. Together, the Alliance is deterring and defending against a wide range of security challenges facing the region, including escalating Russian aggression, terrorism, hybrid and cyber threats, emerging and disruptive technologies, and the way the climate crisis is affecting the threat landscape. NATO is also working to address the risks the People’s Republic of China presents to our shared security interests, our democracies, and to the rules-based international order.

## Off-case

### DA UQ

#### Burden-sharing concerns mean summit commitments to expand military development are hollow

Thomas Graham June 30, 2022, “Did the summit reveal a newfound sense of NATO unity?” COUNCIL ON FOREIGN RELATIONS, https://www.cfr.org/in-brief/nato-countries-signal-resolve-summit-what-does-it-mean-russia

The summit was an impressive show of resolve to counter Russia’s aggression, including through continued diplomatic, economic, and military support for Ukraine. NATO pledged to further expand its military support for its vulnerable allies along the Russian frontier. In particular, the United States announced that it will establish a permanent headquarters for its V Corps in Poland. Most important was the eleventh-hour agreement that Turkey reached with Finland and Sweden, by which Ankara lifted its objections to their joining the alliance and allowed NATO to begin the accession process.

However, challenges remain. Burden-sharing is a perennial issue: Even after Russia’s assault on Ukraine, the majority of members fall short of their commitment to spend at least 2 percent of their gross domestic product (GDP) on defense. The laggards include, most importantly, Germany, although it has taken steps recently to meet that target as a multiyear average. Moreover, in the weeks ahead, the alliance’s resolve will be tested, as strains over rising inflation and concerns over energy and food supply mount across the Euro-Atlantic region. In recent weeks, France, Germany, and Italy have expressed interest in finding a negotiated settlement to the conflict, which would likely leave some seized Ukrainian territory in Russian hands. That position is vehemently opposed by Poland and the Baltic states, among others. Though those differences were pushed into the background during this summit, they have not gone away.

#### Summit agreements were mainly symbolic

Scott Ritter July 6, 2022, Scott Ritter is a former US Marine Corps intelligence officer whose service over a 20-plus-year career included tours of duty in the former Soviet Union implementing arms control agreements, serving on the staff of US Gen. Norman Schwarzkopf during the Gulf War and later as a chief weapons inspector with the UN in Iraq from 1991-98, “Nato Summit Fails to Impress,” ENERGY INTELLIGENCE, https://www.energyintel.com/00000181-d2df-d053-a997-fbdf42360000

The Madrid summit was intended to be Nato’s comeback moment, a display of unity and resolve designed to overcome the legacy of Afghanistan while standing up to the Russian invasion of Ukraine. Once one sifts the wheat from the chaff, however, there was little of substance. The post-summit reality is that Nato remains a dysfunctional alliance that is struggling to craft a viable response either to Russia’s invasion of Ukraine, or to the future challenges posed by the emerging Russian-Chinese partnership.

### NATO Focus DA UQ

#### NATO is focused on China – cards about Russia don’t disprove our DA because the threat response to both is interwoven

Aljazeera June 30, 2022 “NATO declares China a security challenge for the first time,” https://www.aljazeera.com/news/2022/6/30/nato-names-china-a-strategic-priority-for-the-first-time

NATO has listed China as one of its strategic priorities for the first time, saying Beijing’s ambitions and its “coercive policies” challenge the Western bloc’s “interests, security and values”.

The alliance’s new blueprint, or Strategic Concept (PDF), that lays out its priorities for the next decade, was approved at a leader’s summit in Spain on Wednesday.

The document directed its harshest language towards Russia, which it described as “the most significant and direct threat” to the alliance’s peace and security, but said Beijing’s military ambitions, its confrontational rhetoric towards Taiwan and its increasingly close ties with Moscow posed “systemic challenges”.

“China is substantially building up its military forces, including nuclear weapons, bullying its neighbours, threatening Taiwan … monitoring and controlling its own citizens through advanced technology, and spreading Russian lies and disinformation,” NATO’s Secretary General Jens Stoltenberg told reporters.

“China is not our adversary,” he added, “but we must be clear-eyed about the serious challenges it represents.”

In response, China on Thursday said it “firmly” opposed NATO’s declaration, calling it a “completely futile” warning.

“NATO’s so-called new strategic concept document disregards facts, confuses black and white … [and] smears China’s foreign policy,” foreign ministry spokesman Zhao Lijian said.

The official turn by NATO puts the world’s largest military alliance, based on the United States armed forces, on guard against China, which has the world’s second-largest economy and a rapidly growing military, both in numbers and in top-notch technology.

“One of the things that [China’s] doing is seeking to undermine the rules-based international order that we adhere to, that we believe in, that we helped build,” said US Secretary of State Antony Blinken. “And if China’s challenging it in one way or another, we will stand up to that.”

Western leaders are concerned that Russia’s aggression in Ukraine, which China is yet to condemn, could embolden Beijing to be more assertive over Taiwan. China considers Taiwan a part of its territory with no right to independent recognition as a state or representation on the world stage.

### CP – EU: Biotech solvency

#### Europe is competitive in biotech and could become the industry star

Franck Le Deu and Jorge Santos da Silva ’19, August 23, “Biotech in Europe: A strong foundation for growth and innovation,” MCKINSEY, <https://www.mckinsey.com/industries/life-sciences/our-insights/biotech-in-europe-a-strong-foundation-for-growth-and-innovation>

Biotech is entering its next S-curve of growth as companies work to transform an array of innovations—gene therapies, stem-cell treatments, antisense DNA, siRNA,1 CAR-T2 —into powerful new therapeutic tools. Yet more scientific and technological breakthroughs are on the horizon. Europe’s role in this industry continues to grow, and the region leads in many ways. However, European companies have an opportunity to play an even stronger role in the growth of an important and dynamic industry.

This article shares highlights and reflections from our recent report on Europe’s biotech industry, Biotech in Europe: Scaling innovation, which focused on these three questions: What makes European biotech attractive, what financing does it need to fuel growth, and what should biotech leaders and investors do to succeed?

What makes European biotech attractive?

Our research indicated that three factors make Europe’s biotech market attractive to investors: strong hot spots across geographies, modalities, and therapeutic areas; powerhouse research and industry expertise to support basic science and innovation; and an abundance of high-caliber talent.

#### EU’s new funding initiatives opens the door for EU tech dominance and innovation

Korzekwa-Józefowicz 22 (Anna Korzekwa-Józefowicz; Communication expert in the field of higher education and science; former spokeswoman of the University of Warsaw, “*Quantum ideas are born in Europe*” [https://sciencebusiness.net/news/quantum-ideas-are-born-europe] Accessed 7/6/22, TR)

**Europe** is remarkably **competitive in** terms of quantum **tech**nologies, according to **QuantERA**, the largest European quantum technology **research-funding** programme. Quantum technologies harness the distinctive properties of quantum physics to produce a functionality or performance which would be otherwise unattainable. "Many ideas and concepts in the field have emerged on our continent”, observes Professor Konrad Banaszek, the scientific coordinator of QuantERA. As a case in point, he mentions research on quantum communication and cryptography, such as next-generation quantum communication protocols that guarantee secure data transmission even if the exact characteristics of devices are not known. Revolutionary change Researchers argue that the advancement of quantum technologies may also **lead to** revolutionary **change in** fields as diverse as **medicine**, meteorology, **robotics**, banking and **telecommunications**, as well as complex system **simulation**. We can expect the advent of new sensors, detectors and more accurate clocks. Within the next twenty years, some of our medical diagnostic techniques will change; procedures such as magnetic resonance will likely become **faster**, **more accurate, cheaper** and less invasive. Quantum technologies will also improve the sensitivity of detectors used to sense gravitational waves. The great value and potential of the field has not escaped the notice of governments across Europe; various countries have drafted national and domestic strategies for quantum technology development. In 2018, the European Commission launched a ten-year programme known as the Quantum Flagship, which consists of research institutions, industrial centres and decision-makers working together to **help Europe emerge as a leader in** quantum **tech**nologies. The QuantERA network was established two years earlier; today, it brings together 39 research-funding agencies from the European continent, as well as Israel and Turkey, and its mission is aligned with the long-term strategy adopted by the European Union. A network of new ideas “Many research problems cannot be studied or investigated in just one country; to address them, you need the knowledge and experience of multiple teams. **QuantERA enables an influx of new ideas** within the field of quantum technology”, says Professor Banaszek. The network promotes ambitious research into cutting-edge quantum technology engineering, supports cooperation between researchers and research-funding agencies, monitors actions and strategies in the field of quantum technology, and drafts guidelines on responsible research. To date, QuantERA has announced three calls (in 2017, 2019 and 2021) and funded 77 projects that have involved 400 different research groups. The scope of research eligible for funding under the programme is very broad, covering quantum communication, quantum simulation, quantum computation, quantum information sciences and quantum metrology sensing and imaging. Every call announcement includes a declaration of openness to new initiatives. “All the new ideas that emerge in Europe, for which Europe is so well known and appreciated around the world, have space to flourish here. We provide a platform for communication between researchers, create a forum for dialogue between them and research-funding agencies, and offer funds to put their ideas into practice”, says Sylwia Kostka, a QuantERA coordinator. Kostka emphasises that the network markedly strengthens European ties. “The research groups we bring together are so numerous that we are able to create a truly European research space”, she adds. Initially, the network primarily funded basic research, but in the last call, grants were also awarded to applied research projects. “We really promote basic research because the area is still so young. Especially since the path from idea to implementation and to finished product can be really short”, says Professor Banaszek. Quantum random number generators are one such example. First-generation devices are already available; in the future, they may find applications wherever secure communication is of the essence, including in critical infrastructure of key importance to national security. Boosting European potential QuantERA is an ERA-Net Co-fund initiative, co-funded by its member agencies and the European Commission. Coordinated by the Polish National Science Centre, the network sets out to promote the participation of countries in which the level of research and innovation is below the EU average (the so-called widening countries). “The financial mechanism is designed to **encourage cooperation** that breaks the mould and help create research consortia with a **greater degree of openness**”, says Prof. Łukasz Rudnicki from the University of Gdańsk, who coordinates a project entitled “Application-ready superresolution in space and frequency”, awarded funding under the QuantERA programme in 2019. His research, which uses quantum measurements methods to improve the resolution of optical devices, with potential applications in astronomy (finding distant planets), aviation technologies and spectroscopy (studying the chemical composition of various substances), brings together partners from the Czech Republic, Poland, France, Spain and Germany. “QuantERA allows us to **tap the potential of scientists from all over** Europe, as well as countries that have a less-developed academic structure or have only recently joined the EU. This is a great value of this programme”, explains Prof. Rudnicki. The next QuantERA call is scheduled for 2023. If the network gets funding from the European Commission, yet another will take place two years later. “If we want Europe to **remain competitive**, we need to secure further funding for QuantERA”, concludes Prof. Banaszek.

### CP – EU: A2 “US key”

#### US regulation on biotech is contradictory and shaky; only international actors solve

Cohrssen & Miller 18 (John J. Cohrssen; an attorney in private practice, served in senior positions for the White House and for Congressional Committees, Henry I. Miller; former FDA American medical researcher and columnist, “*How the FDA Virtually Destroyed an Entire Sector of Biotechnology*” [https://www.cato.org/regulation/winter-2017-2018/how-fda-virtually-destroyed-entire-sector-biotechnology] Accessed 7/6/22)

Blocking innovation / The **FDA’s failures** in both policy formulation and in the actual reviews of the genetically engineered salmon and mosquito resulted from empire‐​building, a lack of scientific expertise, and deference to political pressure. **In contrast, the U.S. Department of Agriculture** has a **long history** with genetically altered biocontrol agents, most notably the innovative screwworm fly produced with sterile‐​insect techniques that was **success**fully developed by the USDA more than 70 years ago to eradicate a devastating animal pest. Since then, the USDA has performed, funded, and overseen the testing and commercialization of a variety of control agents created with sterile‐​insect techniques. (When released in large numbers, insects made sterile—usually by irradiation—mate but don’t produce progeny, and thereby reduce wild insect populations.) Largely because of the **irrationality** and **unpredictability** **of U.S. regulation**, industry has been reluctant to invest in these important new approaches to the improvement of animal traits. The few companies that have, besides AquaBounty and Oxitec, include Recombinetics, which has produced hornless cows (an important innovation), and Genus, which has developed pigs resistant to the devastating Porcine Reproductive and Respiratory Syndrome Virus, the cause of losses to U.S. pig farmers of more than $600 million annually. The foreseeable development of chickens with genetic resistance to avian influenza will be a monumental breakthrough because there is no vaccine against it and outbreaks result in the culling of tens of millions of birds annually. These companies have the potential to create the Next Big Thing in animal husbandry—if only innovation were not strangled by unnecessary, misguided government regulation. The arrogation of oversight over modern animal breeding by the FDA’s Center for Veterinary Medicine is an exemplar of the sort of regulatory overreach and dysfunction that the Trump administration claims it wants to address. The White House Office of American Innovation, headed by Jared Kushner, was established for this purpose. However, it has not focused on biotechnology and it has a very limited staff. It will likely fall to other entities in the White House to reassign oversight of genetically engineered animals to more appropriate agencies. The USDA has ample oversight authority over animal breeding under various statutes, and certain other agencies also may have concurrent authority over products such as pesticides (by the EPA) or particular food products (by the FDA’s Center for Food Safety and Nutrition). Such a change would likely be broadly supported by academia, industry, investors, and others who have been discouraged and frustrated by the FDA’s dysfunction and obstructionism. Withdrawing the FDA’s “veterinary drug” guidance and assigning jurisdiction over genetically modified animals to the USDA and EPA would be a logical and important advance for agriculture, the environment, and public health. All that is needed to get it done is resolve from the feds. It can’t happen soon enough.

### CP – EU: China solvency

#### Structure can bring out Europe’s edge on biotech – they are positioned to out-compete China if they expand biotech coop

Bayer ’22, May 24, “How Europe can become a leading biotech hotspot,” <https://www.bayer.com/en/news-stories/how-europe-can-become-a-leading-biotech-hotspot>

It is clear from the fight against the pandemic that Europe has extensive expertise in the biotech sector. We can legitimately claim to hold a leading role. We have a diverse research landscape, and state funding of basic scientific research is excellent, with almost half of the world’s top 100 life science universities located in Europe. According to the Statista online portal, twice as many scientific papers relating to biotech are published in Europe as in the United States, with this figure rising to three times as many when compared to China. The Max Planck Institutes alone can boast 24 Nobel Prize winners among their ranks.

Europe is clearly a driver of innovation. The only missing element for harnessing this innovative strength in Europe are efficient structures. That is what hamstrings promising companies from emerging. Although we have plenty of inventiveness, successfully commercializing good ideas often remains a challenge. Here, Europe lags behind other parts of the world – especially the United States, the biggest biotech market, where the most recent annual sales figure was a good 135 billion dollars.

The situation doesn’t have to stay that way. I am convinced that Europe can become a biotechnology hotspot. For this to happen, we need to change key framework conditions. We need to celebrate success not just in research, but on the market, too.

More Californian flair

The unprecedented speed at which an mRNA vaccine was developed was only possible thanks to framework conditions that are not generally prevalent in Europe under normal circumstances. The pandemic acted as a catalyst, temporarily creating conditions in Europe similar to those found in Silicon Valley, with key partners from industry, science, politics and non-governmental organizations all uniting in pursuit of one goal – the fight against the pandemic. If Europe is to make the most of its huge potential in biotechnology, we need more Californian flair and, above all, a greater appetite for risk.

We should encourage young scientists with an entrepreneurial mindset to find the courage to leave their university research institutes and found companies instead. We need to support them – not least as a way of persuading them to stay in Europe. Cultivating a spirit of entrepreneurship, combined with a greater tolerance for failure, is essential.

We need more collaboration in Europe, too, and this is very much in patients’ interests. Cooperation between pharmaceutical and biotech companies, science and regulators is working better under the conditions of the pandemic than at any other time in history. It is now a case of making the most of this momentum and expanding it.

### CP – EU: Bioterror solvency

#### EU solves for bioterror better – U.S. doesn’t have much to contribute

Matthews 22 (David Matthews; experienced writer for the Science|Business news source, “*EU and US move to control risk of dangerous pathogens escaping from labs*” [https://sciencebusiness.net/news/eu-and-us-move-control-risk-dangerous-pathogens-escaping-labs] Accessed 7/6/22, TR)

The Bipartisan Commission on Biodefense is a private organisation, so it needs lawmaker and government buy-in to implement its recommendations. But at least one of its ideas - expanding research into how to improve lab safety - is now being worked on by White House science bodies. Last month, a subcommittee of the National Science and Technology Council, which advises the US president, concluded that scientists simply lack enough evidence to know how best to make labs safe and secure. Some labs rely on “antiquated research” or “ad hoc protocols”, warned the committee’s report, Evidence-Based Laboratory Biorisk Management Science & Technology Roadmap. “The costs of not advancing the scientific foundation for laboratory biorisk management are manifold—such as increasing the risks of accidents, inadvertent exposures and releases by using ineffective or outdated practices in life science laboratories,” it warns. This doesn’t just mean practical research into, say, how to shower off pathogens when exiting a lab. The committee also thinks scientists could benefit from sociological research into how academia could become as safety conscious as the nuclear industry, for example. Funding for biorisk research could be incorporated into grants, it suggests, or new dedicated funding streams established. Scientists need new ways of sharing what they have learned about lab safety, it says, because existing ways of spreading knowledge, like publishing in a journal, “face roadblocks surrounding reputational or liability sensitivities.” But for now, it appears that these recommendations and discussions in the US have not translated into new lab safety initiatives at individual universities or by regulatory bodies, at least publicly. Asha George, executive director of the Bipartisan Commission on Biodefense, said she was not aware of any such moves recently. “The **US** government **understands** the need for improving lab biosafety and biosecurity,” she said. But it had **not** yet been **able to create new programmes** “that would not **overburden** research institutions,” George added. “There has been some talk of creating an independent government agency to address lab biosafety and biosecurity over the past few years, but **nothing** yet has **come to fruition** in that regard.” The US National Science Advisory Board for Biosecurity is also currently reviewing guidelines for so called “gain of function” research, in which scientists make pathogens more risky in the hope of understanding them better. Meanwhile in the **EU**, lab safety is to play a part – albeit a small one – in the bloc’s **plan for future** pandemic **preparedness**. A communication from the European Commission released on 26 April **calls on member states** to “conduct periodical reviews of laboratory safety standards based on the lessons learnt from the COVID-19 experiences, informing necessary revision, and strengthening biosafety standards.” A Commission spokeswoman did not offer any more details on this instruction. But the EU has **funded preparedness projects**, for example, about pandemics caused by lab accidents. And in China, the government has already taken some steps to bolster lab safety and security, although it is unclear how these have filtered down to lab practice on the ground. In 2020, it introduced new biosecurity legislation, and in March this year the country’s powerful state council issued new guidelines on research ethics that include injunctions to maintain “biological security.”

### CP – EU: A2 Perm

#### Perm fails: US-EU tech relations is historically zero-sum and hostile

1. US-EU relations mirror an empire state governing over its peripheries, extracting resources for its own gain at the suffering of its constitutes, i.e. zero-sum
2. Will eventually lead to the peripheries adopting new strategies to “catch up” with the center, forcing the empire to “demature” to restore the asymmetric balance of power
3. Fire arg imo

Schwartz 22 (Herman M. Schwartz; professor of politics at the University of Virginia, “*The European Union, the United States, and Trade: Metaphorical Climate Change, Not Bad Weather*” [https://www.cogitatiopress.com/politicsandgovernance/article/view/4903] Accessed 7/6/22, TR)

**US and EU** trade **relations historically** have been a short‐ run stable but long‐run **unstable** set of **imbalance**s, in which the asymmetrical, somewhat hierarchical structure of the US–EU relationship mixes with secular trends to produce cycles marked by growing tensions and peri‐ odic reconfiguration of the institutional structure regulating trade. Put simply, **US** elites and many firms sit at the center of **an empire‐like**, but decaying, global **struc‐ ture of power**. A mixture of institutionalized cooperation with some European (and Asian) elites and with their militaries sustains this imperial structure. All empires extract resources from their peripheries and all successful empires balance **extraction with** the institutionalized **provision** of order and the transmission of production and cultural technologies. But **balancing creates a dilemma**. Order, stability, and transmission enable peripheries to catch up with the center in economic and, potentially, military terms (Gilpin, 1981; Mann, 1986). While catch‐up increases the vol‐ ume of resources the center can harvest from the periphery, it also potentially **creates peer rivals**. Imperial elites thus must periodically “de‐mature” or reconfigure eco‐ nomic and military power to restore the asymmetries that enabled them to create the empire in the first place. “Must,” however, implies neither “will” nor “will success‐ fully.” Here the critical issue is which firms and whose firms successfully capture the enhanced profits associ‐ ated with the emergence and monopolization of new Schumpeterian leading sectors after 1800, and whether a domestic political base supports a given global order. Thus, geopolitical and domestic political realities highly constrain state agency. This article thus surveys the Braudelian longue duree rather than the “histoire evenementielle” of the US–EU trade relationship, complementing Hjertaker and Tranøy (2022) on the financial linkages and Kerremans (2022) on the narrower World Trade Organization (WTO) insti‐ tutional structure. It does so to trace structural eco‐ nomic changes occurring “behind the backs of actors”— Max Weber’s Auslese (Breiner, 2004)—as these strongly condition the choice of options available to actors in the struggle for dominance of social arenas in general and, given the focus of this article, markets in partic‐ ular. Thus, like Smith (2022), the article addresses the structural changes in the global economy conditioning the US–EU trade relationship over the post‐war period, rather than looking at “operational” issues over a nar‐ rower time frame, such as the workings of preferential trade agreements, the chronology of specific decisions, or specific presidents. The value added here is identifying the **longer‐term trends** **generating** broad **constraints** on national political actors—climate change around trade—so as to avoid too much emphasis on idiosyncratic decisions attached to particular political personalities—the weather. As such, explicit discussions of agency largely drop out for reasons of parsimony. The article thus provides one concrete dimension of the more general framework presented by Smith (2022). In particular, where the data are available, the article focuses on two key bases for economic power: looking backwards, the distribution of global profit in the past 16 years, and, looking forward, the distribution of R&D efforts about present and emerging industries. Section 2 elaborates the analytic frame. Sections 3 and 4 respectively explore EU–US relations in the auto‐ mobile and petroleum/Bretton Woods 1 era, roughly 1950 to 1980, and then the information and communi‐ cation technologies (ICT)/Bretton Woods 2 era, roughly 1980 to 2010. Section 5 discusses the state of play after the 2008–2010 financial crises, focusing on R&D. Section 6 concludes, with particular attention to the questions raised in the thematic issue introduction.

#### Perm breaks down – different opinions on China prevent US-EU coop

Shaohua 22 (Dr. Yan Shaohua; research associate professor at the Center for China-Europe Relations (CCER) at Fudan University, Shanghai, China, “*Transatlantic Policy Coordination on China and Its Limitations*” [https://heinonline.org/HOL/Page?handle=hein.journals/chintersd92&div=7&g\_sent=1&casa\_token=&collection=journals] Accessed 7/7/22, TR)

Although the EU and the US have built more consensus on China, there are still **differences** across the Atlantic in the perception of and response to the "China challenge," which is difficult to resolve in the short term. In keeping with its role as a "hegemonic power," the **US** traditionally tends to regard China's rise as a **geopolitical** and **security challenge**. Containing China's development is a priority of Washington's China policy in order to maintain American global hegemony. At present, the US perception of the "China threat" has two new features. The first is its primacy in policy-making, i.e. China is considered the primary threat to the United States. Biden's Interim National Security Strategic Guidance and the 2021 Annual Threat Assessment published by the Office of the Director of National Intelligence both listed China as the major challenge. The second is its comprehensive nature. The US regards its competition with China as comprehensive, embracing economic and trade relations, ideology, geopolitics and international mechanisms. The **EU** regards China **neither** as a primary **threat nor** as a comprehensive **rival**. Its strategic perception of China is multi-dimensional and multi-faceted, "a **cooperation partner**, a **negotiation partner**, an economic competitor and a systemic rival."41 Under the US influence, the EU has come to pay more attention to security issues and competitiveness in China-EU relations. However, geopolitics and security are not its primary concerns, and economic interests still play an influential role. In addition, the EU's perception of China is deeply influenced by its commitments to **multilateralism**. It regards China as an important force to address global challenges in the multilateral international system.

### CP – NATO Fund

#### Text: The North Atlantic Treaty Organization should assemble and fund a technology bank focused on biotechnology with an emphasis on resilience as a core concept.

#### A NATO bank will address the tech gap between alliance members and solve any finance management

**Bergmann, 21** (Max Bergmann, Max Bergmann is the director of the Europe Program at the Center for Strategic and International Studies (CSIS)., 1-13-2021, accessed on 7-6-2022, Center for American Progress, "NATO’s Financing Gap", https://www.americanprogress.org/article/natos-financing-gap/)-JLI

In 2014, following Russia’s invasion of Ukraine and seizure of Crimea, NATO leaders met in Wales for a critical summit. Since the end of the Cold War, and especially following 9/11, the alliance had shifted its focus from its traditional mission of defending Europe to operations abroad. Meanwhile, NATO members significantly reduced defense spending, downsized their forces, and underinvested in modernizing their forces following the Cold War. However, Russian aggression against Ukraine shook the alliance; NATO leaders agreed in Wales that defending Europe would be a top priority and committed to spending at least 2 percent of gross domestic product on defense by 2024.1 This pledge was seen as a massive step forward for the alliance, as it would serve to address a growing gap in its capabilities. Since the summit, some progress has been made in strengthening the alliance. NATO members have increased defense spending, deployed forces in Central and Eastern Europe, and begun investing in needed capabilities. In 2019, almost all NATO allies increased their defense spending, with nine countries hitting the 2 percent goal.2 Most allies have put plans in place to substantially increase defense spending by 2024.3 The alliance is stronger and better prepared to deter Russia than it was six years ago, despite the divisive approach of President Donald Trump, but significant gaps remain. Marginal spending increases by various NATO members were inherently fragmented and often yielded few new major capabilities or failed to address some of NATO’s serious shortfalls. Meanwhile, many member states still have yet to adequately invest in their forces, leading to very low states of readiness and operational strain. Lack of progress toward the 2 percent benchmark has also caused major diplomatic tension within the alliance between the countries meeting their commitments and those that are not.4 Now, with the COVID-19 crisis hammering the balance sheets of all NATO members, the prospect for European defense spending looks bleak.5 It seems unlikely that there will be significant new investment to address some of NATO’s critical capability gaps. Indeed, the European Union—which had planned to increase funding to upgrade the dual-use infrastructure critical to moving NATO forces—has reduced its planned allocations in its recent budget.6 NATO members seeking to keep their economies alive are unlikely to prioritize defense. This is a serious problem for the alliance, and NATO needs to think more creatively about how to support continued alliance investment in the wake of the massive economic contraction caused by COVID-19. Simply demanding that countries spend more on defense, which was not very effective prepandemic, will certainly not work now. What has become apparent is that NATO’s default focus on individual nation-state spending commitments was doing little to address alliancewide issues. Collectively, European NATO members spend as much on defense as Russia, yet the disaggregated and loosely coordinated spending by individual states means that the alliance’s combat strength is well short of what it could be and has left critical gaps in its capabilities. NATO, since its founding, has lacked the resources to fill gaps and make investments. The alliance has overlooked one of its potentially most powerful assets—the collective economic and financial clout of its members. NATO has not leveraged its collective financial stature and the position of its many wealthy members to shore up the alliance. In the wake of the COVID-19 crisis, this must change through the creation of its own bank. A NATO bank would resemble other multilateral financial institutions but focus on allied defense priorities. A NATO bank, while new for the alliance, would emulate the structure of other multilateral lending organizations. Yet instead of focusing on providing financing for international development as, for example, the World Bank does, it would focus on the defense sector to prompt defense modernization and fund multilateral investments. A NATO bank would leverage the creditworthiness of its wealthy members, enabling it to provide attractive low-interest, long-term loans to members lacking the resources to invest in critical alliance capabilities. For example, former Warsaw Pact NATO members face substantial challenges in retiring old Soviet-Russian weapons systems with new Western-made equipment, and many more have failed to build up and modernize their infrastructure and technology capabilities.7 This is not because NATO as a whole lacks the resources but because individual NATO members lack the resources. This, however, makes the alliance overall considerably weaker than it could be. The bank could finance efforts to address critical gaps that might fall through the seams of the alliance, such as modernizing dual-use infrastructure. This could entail upgrading bridges to support heavy military vehicles transit from west to east or investing in secure 5G technology. A NATO bank could provide an alternative to nations and regions turning to banks and lending institutions tied to NATO’s competitors, such as China and Russia. A bank could provide NATO with an important tool to safeguard its access to dual-use infrastructure and strengthen ties with non-NATO member states that are critical to the security of Europe, such as in the Balkans. In a new era of geopolitical competition, a NATO bank could serve as a critical tool. A NATO bank would better equip the alliance to manage the financial challenges of conflict. By not taking into account how to finance the alliance, NATO has not adequately prepared itself for a military conflict. NATO does military planning for all sorts of contingencies, but it does not plan for how to finance these efforts in the event of a conflict. Yet underlying any significant military effort are questions of economic and financial capacity. Military conflict and competition put great economic strain on a nation or power, stressing national budgets and often causing painful and unpopular economic choices. Yet as the NATO alliance has developed and solidified over the past 70 years, it has not organized itself to grapple with these fundamental questions: Who will finance the alliance? How will that be done? While the United States has traditionally stepped in, many of NATO’s European members also possess immense financial resources and standing. The alliance does not need to rely solely on the dollar; it can now also rely on the euro as well as the pound. The burden of financing the alliance should not be an American responsibility or fall on the shoulders of select member states but rather be considered a shared responsibility. To establish the bank, wealthier members would need to provide initial startup capital, while member states that are the intended recipients for loans would need to agree to participate. NATO allies would set priorities for what the bank should fund, seeking to balance the need to address urgent critical shortfalls with longer-term priorities such as investing in new dual-use technology. The bank would finance NATO priorities, such as defense modernization within the alliance, with a focus on joint acquisitions and replacing outdated Soviet-Russian equipment; strategic investments in dual-use infrastructure; investments in emerging technologies such as 5G development; and crisis response funds. After the turmoil of the Trump administration, there will likely be significant energy on the part of NATO members to embrace new ideas to revive and renew the alliance. The Biden administration should seize the moment and push for NATO to announce the creation of a new bank at the first leaders’ summit. A NATO bank could also serve as a critical tool in the short term by helping to alleviate budgetary pressure caused by the economic fallout from the COVID-19 pandemic. Ultimately, a NATO bank would not magically solve all issues or fill all regional capabilities gaps. It will not solve the budgetary crunch caused by COVID-19. Some members may continue to resist making investments, even if offered extremely low borrowing costs from NATO, and may need institutional pressure and evidence to incentivize an initial buy-in. Yet others will take advantage, especially if the United States were to shift its diplomatic energy from demanding arbitrary spending targets to supporting specific investments that allow capability gaps to be filled. A bank would be a flexible tool that could evolve with NATO priorities and leverage the alliance’s financial clout to strengthen the security of all members. Strengthening the NATO alliance—the foundation for European security and the trans-Atlantic partnership—is absolutely essential. As such, NATO needs to get more innovative in how it seeks to address its shortfalls.

#### Finance and funding would play vital role in supporting NATO’s security objective

**Bergmann, 21** (Max Bergmann, Max Bergmann is the director of the Europe Program at the Center for Strategic and International Studies (CSIS)., 1-13-2021, accessed on 7-6-2022, Center for American Progress, "NATO’s Financing Gap", https://www.americanprogress.org/article/natos-financing-gap/)-JLI

Finance and defense: A critical link Critical to any alliance war effort is the ability to mobilize national resources to finance and fund a prolonged military campaign, not just of an individual nation but also of its allied partners. The history of military alliances is often inextricably linked to the ability of allies to financially support each other. During World War I, Allied forces were reliant on American financier J.P. Morgan to finance the Entente’s war effort. Historian Adam Tooze explains, “By the end of 1916, American investors had wagered two billion dollars on an Entente victory. The vehicle for this transatlantic operation…was a single private bank, the dominant Wall Street house of J.P. Morgan.”8 J.P. Morgan’s efforts were driven in part by business interests and in part by support for the Entente. Tooze concludes, “The result was a quite unprecedented international combination of public-private power.” During the Battle of the Somme in the summer of 1916, J.P. Morgan spent more than $1 billion in the United States on behalf of the United Kingdom, amounting to more than 45 percent of U.K. war spending.9 These examples demonstrate the financial underpinnings of any massive allied military endeavor. When states enter into a conflict, they are often willing to spend whatever it takes financially—and states that lack the capacity to finance or support their efforts often flounder. Tooze explains that while the Entente could rely on the United States providing needed supplies for the home front, especially food and coal, Germany could not, which he argues was “an essential factor in deciding the eventual outcome.”10 Furthermore, during WWII, the United States provided military aid through the Lend-Lease Program, significantly bolstering British and Soviet forces.11 The United States provided more than $500 billion in equipment such as tanks, fighter aircraft, and ships, but the repayment plan for these “leased” items had an extremely long-term time horizon. The United Kingdom did not fully pay back the United States until December 29, 2006.12 Despite the issues of war financing being critical to any military effort, NATO as an established military alliance has not accounted for how to finance a broader and more protracted alliancewide military effort. Nowhere in its organization is there a defined financing vehicle to initiate investments in defense or to sustain the alliance and its members. Countries’ finance ministers have little, if any, role or engagement with NATO. Should a member state fall under attack and need an urgent injection of financing to keep soldiers paid or acquire defense equipment and other critical supplies, this would need to be done outside of the existing alliance structure, likely on a bilateral or ad hoc basis. While unlikely, the potential lack of a defined finance vehicle or structure underscores the need for NATO to prepare for such contingencies. The United States as NATO’s financial backbone NATO has operated on the assumption that its most powerful member, the United States, would play the same role it had during the first two world wars. In the years after WWII, the United States pushed to rebuild Europe, both economically and militarily. While the Marshall Plan provided critical economic assistance, the United States also effectively financed the military reconstruction of Western Europe. Through the 1949 Mutual Defense Assistance Act and the 1951 Mutual Security Act, the United States provided more than $50 billion in today’s dollars in military aid to the newly formed NATO.13 When NATO was formed, it was seen as a way of keeping Americans engaged in Europe and preventing the United States from reverting to a post-WWI isolationism. But the United States was also focused on encouraging European rearmament and reducing reliance on the United States, which led to strong early U.S. support for European defense restructuring and integration. U.S. efforts to spur rearmament, particularly in West Germany, were a crucial motivating factor for France to push for European integration through the merging of the coal and steel industries into the European Coal and Steel Community.14 The United States also strongly backed a French proposal to create a European Defense Community (EDC), which would have formed a pan-European army.15 In the aftermath of WWII, the United States therefore sought and encouraged ways to spur European defense reforms in an effort to strengthen the European pillar of the newly formed alliance, which would have reduced Western Europe’s military and economic reliance on the United States. Ultimately, however, the EDC never took hold and a European Army was never formed. Europe integrated economically, but not militarily. Defense was left to nation-states, coordinated through NATO, leaving the United States not only as the lead military guarantor of European defense but also as its de facto financial backbone. As Western Europe recovered economically, individual NATO members took on responsibility for financing and sustaining investments in their military capabilities, which led to U.S. concerns during the Cold War about European underinvestment in defense.16 However, the United States’ military presence in Europe and focus on the Soviet Union meant that it made up for whatever European military deficiencies may have existed. After the Cold War, unlike after WWII, the United States and many NATO members cut defense spending, taking the so-called peace dividend. However, NATO simultaneously expanded eastward, incorporating numerous Warsaw Pact countries. These former Warsaw Pact members had militaries that had been designed and built with the purpose of operating with the Soviet Union against the alliance. Additionally, and similar to NATO’s founding members after WWII, these nations lacked the financial wherewithal to rebuild their militaries. Yet unlike after WWII, the United States made no significant investment to rebuild and transform the militaries of these new members states. When NATO was called on in Afghanistan after 9/11, it was the United States that, through coalition support funds, provided funding and assistance to encourage, support, and sustain member state operations in Afghanistan.17 Following Russia’s invasion of Ukraine in 2014, the alliance recognized the need for urgent investment to deter Russia. Members pledged to spend more, and the United States established the European Reassurance Initiative, now called the European Deterrence Initiative.18 The European Deterrence Initiative provided tens of billions of dollars to bolster NATO’s capacity to deter Russia. It invested in modernizing and expanding military facilities, provided training assistance to forces, and funded the development of military capabilities.19 This American effort has been significant in bolstering NATO’s overall strength. Once again, it was an example of the United States stepping in financially to fill a gap in the alliance. Yet this investment initiative was also limited. U.S. funding has recently focused on encouraging the modernization of Eastern European militaries, but this U.S.-dependent effort is limited in scope, particularly given current budgetary constraints. For instance, although the U.S. State Department will likely continue to provide some funds to strengthen the security and resilience of Eastern NATO members, this is not enough to finance the large acquisitions needed to modernize their forces.

#### NATO bank solves the tech gap between member, improve military defense across alliances and promote better security cooperation among members

**Bergmann, 21** (Max Bergmann, Max Bergmann is the director of the Europe Program at the Center for Strategic and International Studies (CSIS)., 1-13-2021, accessed on 7-6-2022, Center for American Progress, "NATO’s Financing Gap", https://www.americanprogress.org/article/natos-financing-gap/)-JLI

What would a bank do? Addressing NATO’s capabilities gaps After decades of underinvestment, and as a result of its focus on counterterrorism and counterinsurgency operations in Iraq and Afghanistan, NATO and its members have a number of critical gaps in conventional capabilities to deter peer competitors. Although a bank would not solve all of the alliance’s problems—which include ongoing reliance on aging equipment, chronic infrastructure shortfalls, and gaps in defense spending—many of these areas could be addressed by the creation of this new funding mechanism. Reduce reliance on aging Soviet-Russian military equipment As NATO has pivoted back to a focus on deterring Russia, one great irony is that former Warsaw Pact NATO members continue to use and operate aging Soviet-Russian equipment. Not only is much of this equipment—from fighter jets to tracked vehicles to helicopters—in a decrepit state well below the standards of NATO’s Western members, but the continued use of this equipment also creates a dependence on Russia’s defense industry, as keeping aging equipment operating requires that these countries procure spare parts and components from Russia itself.21 This means that NATO defense funds are flowing to the Russian defense industry to enable NATO’s Eastern members to operate equipment to deter Russian aggression. Such spending also violates U.S. sanctions provisions under the Countering America’s Adversaries Through Sanctions Act, which became law in 2017.22 Former Warsaw Pact countries never received an injection of financing to modernize their forces after joining NATO. Unlike after WWII, when the United States helped rebuild allied European militaries to deter the Soviet Union, there was no similar pressing threat that warranted massive military expenditures after the end of Cold War. Modernization and the replacement of aging fleets has happened slowly and sporadically. Additionally, the focus on counterinsurgency missions in Afghanistan and Iraq further reduced investment in higher-end military equipment useful for deterring a peer-to-peer competitor. It is clearly past time for NATO’s Eastern members to modernize their forces with equipment interoperable with NATO forces. However, expecting individual countries to do this themselves is unrealistic. Many of NATO’s Eastern members have increased their defense spending following Russia’s invasion of Ukraine and have taken action to defend themselves and deter potential aggression. Poland, for instance, has invested in a broad-based modernization effort, procuring the Patriot missile defense system as well as new helicopters.23 Romania has acquired used F-16s from Portugal.24 Yet these efforts are piecemeal and disconnected from each other. Moreover, these countries are simply not going to be able to modernize their forces without access to considerable financing. Just as a homeowner would seek a loan to renovate their house or a mortgage to enable them to purchase a house, countries need access to advantageous financing to facilitate the significant investments needed to modernize their forces. Solve infrastructure shortfalls A major military weak spot for the alliance is its inability to move forces quickly and efficiently across the European continent, namely from west to east. Russia has an immense tactical military advantage by being able to amass forces on its territories, giving it the potential to overwhelm the forces of an individual NATO member state, particularly the Baltic states. NATO defense planners would seek to move forces eastward should tensions escalate. But the alliance would face significant difficulty simply moving forces from west to east, as numerous bridges, roads, and rail lines cannot handle the transit of heavy military equipment such as tanks. Although NATO has recently made progress in lowering the barriers to cross-border operations, officials reportedly remain concerned that requirements such as passport checks or outdated infrastructure could stall any coordinated response to a threat within Europe.25 Recognizing this barrier, the EU unveiled a “military Schengen zone” in 2018 with the goal of lowering barriers to moving troops and equipment across Europe and fixing existing infrastructure to withstand this sort of movement.26 As a first step, NATO would need host members to make the necessary infrastructure investments. Yet the purpose of these investments is for the sake of the whole alliance, not just the member state making the investment. Hence, progress in addressing this significant military gap—the inability to mobilize and transport forces to the fight—has been shockingly slow. This clear gap is perhaps the most substantial risk to NATO’s ability to defend allied territory and highlights the urgent need for an injection of funding. Additionally, NATO may also want to finance investment in infrastructure that is critical to the military capacity of the alliance. This could mean improving ports, power plants, and other rail and road infrastructure. In particular, as potential rivals like China provide investment and take controlling stakes in critical infrastructure including electrical plants and ports—such as the Port of Piraeus in Greece—NATO has a clear stake in ensuring that infrastructure critical to the operations of the alliance remain under member control. Furthermore, NATO could help solve the alliance’s 5G problem. 5G networks are largely for civilian purposes but also have a dual-use military dimension in order to support alliance communications. As concerns mount over the security of potentially Chinese-provided 5G communications networks, NATO could help invest in the formation of a secure 5G network that meets alliance security requirements.27 Invest in new and emerging technologies Rapid technological change is transforming warfare. Yet acquisition cycles for procuring new weapons systems are often so lengthy that, by the time of delivery and deployment, the technology has already changed. NATO should support more dynamic procurement efforts, particularly when it comes to defensive systems that could be used to complicate and deter Russian or nation-state incursion. Additionally, NATO should be investing in new technology development and other research that can help spur innovation to bolster the alliance. This could involve providing funding to startups or providing capital to expand ongoing research and innovation. Once the bank is established, its mandate could even expand to include venture efforts that directly fund cutting-edge technology. This effort could also be closely coordinated with the EU. Show support for sustaining defense spending levels Although member states agreed to increase defense spending at the Wales Summit, progress has been slow and sporadic, and a majority of NATO members were unlikely to hit the 2 percent pledge by 2024. This is even more unlikely now with the economic and budgetary fallout from COVID-19. Some NATO members may face severe budgetary shortfalls, making defense spending a potential target for budget cuts. To relieve this pressure, NATO members could use access to inexpensive financing to maintain their current defense spending levels. Close the gap in NATO’s defense planning NATO not only needs to be militarily prepared for protracted conflict scenarios but also should be financially prepared. The alliance should not assume or place the burden of financially backing a massive regional effort on the shoulders of the United States; other NATO members would need to step up as well. But instead of figuring out such financial arrangements in the midst of a crisis, NATO should plan now. If member states are going to fight together, then determining how to finance that effort is critical. A NATO bank should help prompt collaboration and coordination among the formation’s finance ministers and treasury secretaries, which will better prepare the alliance to cope in the event of a conflict.

### CP – BWC

#### Text: The United States federal government should promote biosecurity resilience through review conferences in the Biological Weapons Convention.

#### The next conference is August

Jez Littlewood ’22, March 21, “Potential Outcomes of the Ninth BWC Review Conference,” https://www.unidir.org/publication/potential-outcomes-ninth-bwc-review-conference

The Ninth Review Conference of the Biological and Toxin Weapons Convention (BWC) provides States parties with an important opportunity to advance biological disarmament and chart the future course of this increasingly important treaty.

To stimulate thinking ahead of the Review Conference, which is currently scheduled for August 2022, this report provides a forthright assessment of the risks, benefits, and financial implications of four different potential Review Conference outcomes.

#### BWC review conferences are the critical instrument through which to enforce biosecurity

**Kirschke and , 20** (Marigny Kirschke and ,Marigny is a research associate at Lawrence Livermore National Laboratory’s Center for Global Security Research. Her research focuses on the intersection of biological weapons proliferation, counterterrorism, and arms control. 9-22-2020, accessed on 7-6-2022, The National Interest, "America Must Act To Avoid A Biotechnology Arms Race", https://nationalinterest.org/blog/buzz/america-must-act-avoid-biotechnology-arms-race-169344)-JLI

Biotechnology’s moment is here. The COVID-19 pandemic has accelerated an international race for a vaccine, pushing the limits of how quickly countries can employ biotechnology to develop, trial, and mass-produce a solution to the novel coronavirus. Investing in biotechnology is now slated to remain a top priority for nation-states for the foreseeable future. Even before the pandemic, states were waking up to the potential of biotechnology to transform medical research, crop production, and the environment. Renewed attention to biotechnology comes alongside an old geopolitical environment also made new, or great power competition between Russia, China, and the United States. Joining the ranks of strategic competitions in artificial intelligence, cyber, and space technology, a biotechnology arms race could result in new anxieties over dual-use applications in tandem with bolstered biodefense regimes. The COVID-19 pandemic will undoubtedly alter international biodefense efforts such as pandemic preparedness and response. But states should be wary of expanding biodefense infrastructure without properly addressing advancements in biotechnology that could inflate the “gray zone” of biodefense. The unclear distinction between offensive and defensive work, or dual-use technology, that is imbedded in the nature of the biodefense task means states have to consider the capabilities and intentions of their adversaries, which are all the more unclear in a great power competition. Old dogs, new tricks. The perceived threat of new gene-editing technologies such as Crispr, coupled with advancements in synthetic biology, has not gone unnoticed. Crispr is a relatively cheap and efficient genome editing tool that allows scientists to modify and permanently alter DNA and RNA. Crispr is utilized in research on the treatment of diseases such as cystic fibrosis, heart disease, and even HIV. A biotechnology tool with clear promise, concerns over Crispr are rooted in fear of unintended consequences, and in the potential for nefarious actors to weaponize deadly pathogens. Concerns over synthetic biology, the broad term used to describe the construction of new “biological entities” from scratch, cite similar worries over how an adversary could manipulate this new technology. In the 2018 National Defense Strategy (NDS) that laid the conceptual foundations for the revival of great power competition, the United States named biotechnology as a technology that alters the rapidly changing security environment, providing wider accessibility of potential weapons to more actors. The U.S. director of National Intelligence first included genome editing in a 2016 threat assessment, signaling the potential of dual-use biotechnology to have national security implications if deliberately or unintentionally misused. More recently, the United States listed China, Russia, and Iran as countries engaged in dual-use biotechnology research with potential, but unconfirmed, implications for the Biological Weapons Convention, or the BWC. The 2020 report also included a direct indictment of North Korea as a country with an offensive biological weapons program. This apprehension goes both ways. General fears concerning the development of “genetic weapons” have appeared in official Russian military rhetoric throughout the last two decades. In 2006, Russia submitted a paper to the Sixth BWC Review Conference on the possibility of advancements in technology leading to the creation of “ethnic weapons.” President Vladimir Putin has made statements on the potential of biotechnology to transform weapons and defense. Russia’s 2015 National Security Strategy highlighted the threatening presence of U.S. military-biological laboratories on Russian borders as well as the importance of developing critical technologies such as genetic engineering for national security purposes. China and Russia’s commitment to a high-tech partnership could also contribute to the perceived ambiguity over dual-use biotechnology. The two countries agreed to collaborate on the advancement of technologies such as artificial intelligence, neuroscience, and biotechnology, as a means to strengthen their “strategic partnership.” But both China and Russia have signaled a willingness to engage bilaterally with the United States on biotechnology innovation, which could help promote transparency. China bolstered its investment in biotechnology as a part of the Made in China 2025 campaign, which benefitted U.S.-based biotechnology firms on the receiving end of increased funding in 2018. That same year, the U.S. Committee on Foreign Investments (CFIUS) added biotechnology to a list of industries with restricted foreign direct investment, predominantly to curb Chinese investment and protect intellectual property. Instead of promoting scientific exchange and collaboration, this decision may have made international biotechnology research more opaque. The U.S. military’s investment in biotechnology for biodefense also doesn’t provide the needed assurance to assuage state fears over dual-use research. The Defense Advanced Research Projects Agency, or DARPA’s, interest in utilizing biotechnology for the improvement of the warfighter, along with initiatives to enhance textiles and amend supply chain vulnerabilities using synthetic biology could contribute to the biotechnology ambiguity dilemma. That states are threatened by the potential dual-uses of biotechnology is clear, but how much they are willing to reveal about their own capabilities is less certain. New avenues for discussion are badly needed. The role of the BWC. The threat of dual-use biotechnology has occupied the imaginations of state parties to the Biological Weapons Convention since its inception in 1975. Now past its forty-fifth anniversary, the BWC institutionalized a norm against the use, development, and stockpiling of biological weapons. Review conferences, held every five years, were created in part to address new developments in science and technology as they pertain to the authority of the convention. Annual intersessional meetings for continuing discussions between BWC review conferences were added in 2007, but their productivity has been questionable. A 2016 study following the progress of science and technology discussions, one of the intersessional agenda items for the 2012-2015 period, found that an average of only 4.5 hours a year was devoted to the topic. The 2016 review conference was prepared to address developments in science and technology in its final report, but the Iranian delegation refused to advance discussions unless member states agreed to return to protocol negotiations (a strategy that some analysts believe was a protest of the continued sanctions on its nuclear program). Efforts to introduce a verification protocol to monitor compliance with the BWC collapsed in 2001, and lack of a binding enforcement mechanism in the convention is often cited as the BWC’s biggest shortcoming. Iran’s uncooperative stance prevented state parties from producing a consensus document at the end of the review conference and establishing an intersessional program of work. As a result, the 2017 Meeting of State Parties was used for this purpose, and substantive discussions were delayed until 2018. While states did briefly discuss the dangerous potential of advancing biotechnology applications in their 2018 and 2019 meetings, any definitive agreements will have to wait for the 2021 review conference. Shrinking the gray zone. It is not surprising that a flood of analyses and op-eds are considering how the pandemic might compare to or inspire the use of sophisticated biological weapons, despite its natural origins. COVID-19 has certainly provided a partial answer to a question undoubtedly asked by BW “red teams” for decades: what could a global pandemic do to the international order and the stability of nation-states? Malicious actors need not imagine the consequences. That the U.S. State Department overtly implied the possibility that the COVID-19 virus was intentionally released from a Chinese lab highlights the diplomatic challenges of addressing a biological event, and the need to establish working pathways to avoid escalation. Addressing and institutionalizing the analysis of biotechnology is the necessary first step toward ensuring state parties remain in sync on the changing relationship between biodefense, biotechnology, and pandemic response. As a catalyst for change, the COVID-19 pandemic could push states to make real progress in the 2021 review conference, but not without productive Meetings of Experts and State Parties beforehand. Originally scheduled to occur in August and December 2020, respectively, the two intersessional meetings have been moved to December 2020 and April 2021 because of the pandemic, with the Ninth Review Conference still scheduled to take place the following November. At a minimum, states need to be prepared to imbed a permanent biotechnology working group into the convention to continually address and evaluate the impact of new technology. Otherwise, questions over whether new developments in synthetic biology are covered by the convention will continue to make states worried about their adversaries research developments, which could further encourage a biotechnology arms race. The biggest challenge for the 2021 review conference will be getting member states on the same page. The global impact of the COVID-19 pandemic will undoubtedly affect discussions and augment nations like Iran’s push for a verification protocol. States aren’t likely to build a consensus on this contentious issue before the next review conference, and time spent on this issue will be wasted. States can’t wait another five years to address the rapidly changing pace of biotechnology. The protocol question needs to be put on hold. States also shouldn’t avoid addressing the inevitable overlap between responding to natural versus intentional biological episodes. Russia has maintained that discussing natural epidemics has no role at the BWC, but because strengthening biodefense is the best response to both problems, bolstering biodefense without dialogue creates a precarious security environment. Clarifying the intersection between natural and deliberate pandemic response could help states gage how their own biodefense efforts complement international biodefense coordination. If states better understand their national role and responsibilities in the international biodefense regime, they will be less inclined to pursue unilateral defense initiatives with obscure research trajectories.

#### Review conference bolster alliances security cooperation on biological threat

**Federal Foreign Office, 22** (Federal Foreign Office, 5-9-2022, accessed on 7-6-2022, German Federal Foreign Office, "Statement of the G7 Non-Proliferation Directors Group", https://www.auswaertiges-amt.de/en/newsroom/news/g7-npdg-statement/2525602#content\_2)-JLI

. The G7 intends to bolster efforts to counter the weaponization of biological agents and toxins. Never has it been so urgent for all states to work together to achieve universal adherence to and full compliance with the Biological and Toxin Weapons Convention (BTWC). Good faith and engagement are essential to overcoming the longstanding stalemate of the Convention in order to meet evolving biological threats stemming from state and non-state actors and to address new developments in science and technology. We intend to work towards a successful Review Conference which would promote effective implementation, increase transparency, enhance compliance and confidence-building measures. Near-term concrete action should include the establishment of a new expert working group to examine concrete measures to strengthen the Convention.

28. We pledge our continued support to the United Nations Secretary-General’s Mechanism to investigate alleged uses of chemical, biological or toxin weapons. We will firmly resist and condemn any attempts by any state or individual seeking to undermine its integrity, independence, and impartial character and mandate. As the only established international mechanism mandated to investigate alleged uses of biological weapons, we pledge to cooperate with partners to ensure that the mechanism is properly resourced, equipped, and operationalized to conduct effective investigations when needed。

#### Our CP empirically solves better by establishing a global norm and checks all areas of bio-threat.

**United Nation , ND** (United Nation, accessed on 7-6-2022, United Nation , "Biological Weapons Convention – UNODA", https://www.un.org/disarmament/biological-weapons/)JLI

Biological weapons disseminate disease-causing organisms or toxins to harm or kill humans, animals or plants. They can be deadly and highly contagious. Diseases caused by such weapons would not confine themselves to national borders and could spread rapidly around the world. The consequences of the deliberate release of biological agents or toxins by state or non-state actors could be dramatic. In addition to the tragic loss of lives, such events could cause food shortages, environmental catastrophes, devastating economic loss, and widespread illness, fear and mistrust among the public. The Biological Weapons Convention The Biological Weapons Convention (BWC) effectively prohibits the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons. It was the first multilateral disarmament treaty banning an entire category of weapons of mass destruction (WMD). The BWC is a key element in the international community’s efforts to address WMD proliferation and it has established a strong norm against biological weapons. The Convention has reached almost universal membership with 183 States Parties and four Signatory States. Biological Weapons Convention Text of the Convention The BWC itself is comparatively short, comprising only 15 articles. Over the years, it has been supplemented by a series of additional understandings reached subsequent Review Conferences. The BWC Implementation Support Unit regularly updates a document that provides information on additional agreements which (a) interpret, define or elaborate the meaning or scope of a provision of the Convention; or (b) provide instructions, guidelines, or recommendations on how a provision should be implemented. The text of the Convention is available for download in the six official UN languages: English, Español, Français, Pусский, 中文, عربي Formally known as “The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction”, the Convention was negotiated by the Conference of the Committee on Disarmament in Geneva, Switzerland. It opened for signature on 10 April 1972 and entered into force on 26 March 1975. The BWC supplements the 1925 Geneva Protocol, which had prohibited only the use of biological weapons. States Parties to the Biological Weapons Convention undertook “never in any circumstances to develop, produce, stockpile or otherwise acquire or retain: microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes; weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.” BWC States Parties have strived to ensure that the Convention remains relevant and effective, despite the changes in science and technology, politics and security since it entered into force. Throughout the intervening years, States Parties have met approximately every five years to review the operation of the BWC. Between these Review Conferences, States Parties have pursued various activities and initiatives to strengthen the effectiveness and improve the implementation of the Convention. A total of eight Review Conferences have taken place since the first one in 1980.

#### BWC is the most effective cornerstone for biodefense

R. Alexander Hamilton et al '21, with Ruth Mampuys, S. E. Galaitsi, Aengus Collins, Ivan Istomin, Marko Ahteensuu & Lela Bakanidze, "Opportunities, Challenges, and Future Considerations for Top-Down Governance for Biosecurity and Synthetic Biology," EMERGING THREATS OF SYNTHETIC BIOLOGY AND BIOTECHNOLOGY, pg. 37–58

The BWC, the premier international forum that addresses biological threats, should play a leading role in monitoring security-relevant advances in synthetic biology. Proposals to establish a BWC scientific advisory body and to introduce a S&T reporting requirement into the CBM mechanism should be encouraged.

In view of the growing convergence between biology, chemistry, engineering and computing, inter-convention dialogue is needed between the BWC and CWC, among others, to ensure the full scope of synthetic biology’s risks are taken into consideration and that there is agreement on how to address these risks in the event of deliberate misuse by state or non-state actors.

Given that many security concerns about synthetic biology relate to its informational (e.g. digital sequence information) rather than physical (e.g. DNA sequencers) dimensions, it is necessary to develop improved methods of regulating intangible technology transfers. It is no longer sufficient to rely exclusively on material controls and list-based approaches to regulation.

Synthetic biology is contributing to the democratization of genetic engineering. It is therefore essential to enlist the support of non-governmental organizations and actors, including technology developers, industry and users, in the regulatory response. The value of complementing top-down governance measures with bottom-up governance measures, drawing on limited forms of self-regulation or self-policing, will only increase as the tools of modern biology become more accessible.

There is no one-size-fits-all approach to synthetic biology’s governance. Finding the appropriate ‘mix’ of top-down and bottom-up regulatory measures will require foresight, broad dialogue, and a willingness on the part of governments to look to new, hybrid forms of risk regulation.

### Security K cards

#### U.S. Hegemony was the root cause of the Russia war

Ping 3-20-22 {“*US hegemony: the culprit of Ukraine crisis,*” Xin Ping (A commentator on international affairs, writing regularly for Global Times, China Daily, and other publications. He can be reached at [xinping604@gmail.com](mailto:xinping604@gmail.com)). Global Times Published, Mar 20, 2022, at 05:48 PM, Accessed July 6, 2022, at 04:17 PM. <https://www.globaltimes.cn/page/202203/1255314.shtml>} – KV/TW

"Let the gull'd fool the toils of war pursue, where bleed the many to enrich the few," wrote the 18th-century English poet William Shenstone. That is what is exactly happening during the Russia-Ukraine conflict. Whether it's the people of war-torn Ukraine, sanction-ridden Russia, or insecurity-ingrained Europe, all have suffered greatly. The US, the culprit of the Ukraine crisis, **has been constantly taking advantage of others' misfortune to maintain its hegemony**. Every why has a wherefore. Edward Carr, a leading British scholar of international relations, reminded people more than 80 years ago that **the US was a master in using kindness to disguise selfishness**. Boasting abundant resources, strong industry and geographical advantage, Ukraine could have achieved development. While the country pursued a relatively balanced policy in the early years of its independence, the US supported and incited the Orange Revolution in 2004 and the Square Revolution in 2014 **to push for a pro-Western agenda, splitting Ukraine politically from within and geopolitically between Russia and Europe**. It is really thought-provoking that the "Gateway to Europe" has become one of the poorest countries in Europe, the frontline of NATO's eastward expansion, and the fault line of "color revolutions" and conflicts. In 2014 when the crisis broke out in eastern Ukraine, while Germany, France, Russia and Ukraine held several rounds of consultations and signed two Minsk Agreements to cool down the situation, the US took an opposite direction to fan the flame by inciting the anti-Russian and pro-Western forces in Ukraine to escalate the conflicts on the ground. In the current Russia-Ukraine conflict, t**he US is reaping the benefits without getting itself involved militarily**. **It** **never intended to come to Ukraine's rescue**, **the idea used as a political tool by the US to trap Russia in a seemingly endless conflict**. We might need to go a bit further back into history to conclude how the US hegemony had created all the security trouble for Europe, Russia and Ukraine. It is well known that the US became a global superpower after the two world wars which plunged Europe into chaos and destruction and led to its dependence on the US military hegemony and NATO. Looking for a pathway to common security, Europe and the US signed the Helsinki Accords with the Soviet Union in 1975, which saw the establishment of the Organization for Security and Cooperation as well as the indivisible, cooperative and comprehensive approach to security. However, after the Cold War, the US overturned the European security agenda **and rejected Russia's bid to join NATO four times**. **The aim was to make Russia the imaginary foe to justify US hegemony**. Since 1999, the US launched five major NATO expansions, pushing its borders eastward by more than 1,000 kilometers to include a large number of Eastern European countries, **splitting Europe further**. It also promised Ukraine, Georgia and other members of the Commonwealth of Independent States (CIS) NATO membership, **posing a realistic threat at the doorstep of Russia**. Due to the hegemonic mentality and actions by the US, the vision of indivisible common security broke into pieces, and Russia, Ukraine and Europe were left in a security dilemma and constant conflicts. Former US congressman Tulsi Gabbard stated in a recent interview that President Joe **Biden could have ended the crisis** by promising not to admit Ukraine to NATO. But he didn't, because **the US is seeking an excuse to impose sanctions on Russia**, **and it could profit from war for the American military-industrial complex**. **Ukraine has become another victim in a series of global security crises instigated by the US**, just like Iraq, Afghanistan, and Syria. Now the hegemonic power is pushing for an Asian version of NATO expansion via its Indo-Pacific Strategy, aiming to contain China. **Hegemony is the source of evil and chaos**, while the common security is the only correct option to avoid and end crises. Whether it is Europe or Asia, the rationales of security are the same: Security cannot be enjoyed exclusively, but only shared; It is not a zero-sum game, but win-win cooperation. History may prove again that, the one who makes a fool of others will eventually make a fool of himself.

#### The U.S. is on the wrong side of history

Ping 3-24-22 {*“Who is the ultimate winner of the Ukraine crisis?”* Xin Ping (A commentator on international affairs who writes regularly for CGTN, Global Times and China Daily). CGTN. Published on March 24, 2022 at 12:22, Accessed July 6, 2022, at 11:13. https://news.cgtn.com/news/2022-03-24/Who-is-the-ultimate-winner-of-the-Ukraine-crisis--18EMC9918Ry/index.html.} – TW

**It is a truth universally acknowledged that the notorious U.S. military-industrial complex in possession of good weapons must be in want of a war**. That is also the case for the Ukraine crisis. As the only country stretching nearly across Eurasia, former Soviet Union had been the biggest threat to the U.S. during the Cold War. Through U.S. President Ronald Reagan's "Star Wars program" and support for his counterpart of the Soviet Union Mikhail Gorbachev's reforms, the U.S. finally exhausted the socialistic great power and built up its hegemony in Eurasia. 30 years after the end of the Cold War, **the U.S. sees Ukraine as another chance to economically destroy and politically destabilize Russia to maintain its primacy in Eurasi**a. Through this geopolitical crisis — one of the worst in the 21st century — the U.S. intends to kill three birds with one stone: destabilize Ukraine, control Europe and contain Russia. That is an obvious conclusion considering the strategic importance of Eurasia to the U.S., which has long been a major player of the geopolitical chessboard since the Cold War. As Tiberio Graziani, chair of Vision & Global Trends, a Rome-based think tank, pointed out, **Washington's strategy is a parody of the Roman** "divide et impera," or "**divide and rule**". The U.S. just wants to play off the pawns against each other in the game. Since the outbreak of the Ukraine crisis, the **U.S. has been focusing on three things**: **sanctioning** almost **everything related to Russia** including its cats, **condemning Russia** and **providing weapons to Ukraine**. **Uncle Sam has done everything to fan the flames, but little to put out the fire**. French President Emmanuel Macron commented that although he still believed in the North Atlantic Treaty Organization's brain death, Russia's military operation in Ukraine has become an electric shock for the organization. "It has given strategic importance to NATO and made it even more necessary," he added. That is exactly what the U.S. has been keen to realize through the Ukraine crisis: a revitalized NATO and a Europe dependent on U.S. military protection and security guarantee. Beyond geopolitical gains, there are other benefits for the U.S. to reap. Alexander Clackson, founder of Global Political Insight, a UK-based think tank, believes that commercial interests are the reason pushing the U.S. to provoke Russia to take actions. As Russian oil and gas industry became sanctioned by the U.S., the latter itself, which is also one of the world's top oil producers, becomes an alternative energy supplier. The Wall Street Journal stated that U.S. suppliers of liquefied natural gas (LNG) such as Cheniere Energy Inc. and Cameron LNG are already supplying record amounts of the fuel to starved European markets, of course at a price much higher than that of Russia's natural gas. Since the conflict broke out, Lockheed Martin and Raytheon, manufacturers of U.S. supplied missiles to Ukraine, have seen their share prices rise. According to Asia Times, Gregory J. Hayes, chief executive of Raytheon said on January 25 that "the tensions in eastern Europe are putting pressure on some of the defense spending over there. So I fully expect we're going to see some benefits from it." His expectation might indicate more. Making money from the crisis are not just those weapons companies. An analysis by Business Insider shows that at least 19 federal lawmakers or their spouses hold stock in Raytheon and Lockheed Martin. **Billions of dollars in U.S. defense aid to Ukraine meant that they can directly benefit from the dangerous situation in Europe**. Republican Rep. Marjorie Taylor Greene of Georgia, who bought between $1,001 and $15,000 in Lockheed Martin shares on February 22, wrote in a Twitter thread after her purchase: "**War is big business to our leaders**." **The conflict is still going on in Ukraine. It is** really **tragic that the biggest power of the world does little to promote peace** talks **and stability, but constantly makes troubles to seek its own fortune**. That is **definitely the wrong side of history**.

#### The attempt to securitize Russia is just an attempt to retain US hegemony which perpetuates human rights issues in the US – the alt is key

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As the US and its allies imposed unprecedented sanctions on Russia, **a new economic and cultural Iron Curtain is descending on the European continent**. While the unilateral sanctions continue to hurt Europe and the world at large, **the US has launched a new campaign to isolate Russia** in international organizations. On April 7, the United Nations General Assembly voted to suspend Russia from the Human Rights Council, after **the US accused Russian troops of torturing and killing Ukrainian civilians in the town of Bucha**. **The US also tried to put pressure on Indonesia**, which holds the G20 Presidency this year**, to kick Russia out of G20 forum of major economies of the world.** To the disappointment of the US, however, Indonesia insisted on inviting President Putin to the G20 Summit. But for the US and its Western allies, **there is no shortage of occasions for them to display rudeness and arrogance**: having their representatives walk out of the G20 finance ministers' meeting when the Russian delegate began to speak. On the Latin America front, supported by the US, the Organization of American States recently approved suspension of Russia's observer status. The US Deputy Secretary of State Wendy Sherman even went so far as to indicate that the US has been "investigating the prospects" of expelling Russia as one of the five permanent members of the UN Security Council. **Behind the attempts to exclude Russia from all international organizations and turn Russia into the** "**pariah on the international stage**" as President Biden put it, **the real purpose of the US is to maintain its hegemony in international affairs**. But the hypocrisy is that **the country itself is the biggest transgressor of international rules**. Despite its own track record of mass killing and human rights violations, the **US constantly criticizes the human rights situation of other countries**, **a typical act of double standards**. From Iraq, Sudan, Afghanistan to Libya, Somalia and Syria, the US started 10 wars between 1989 and 2017 and caused 6 million casualties. From the end of World War II in 1945 to 2001, among the 248 armed conflicts that occurred in 153 regions of the world, 201 were initiated by the US. A report from Brown University revealed that the wars launched by the US in the two decades following the 9/11 terrorist attack killed more than 900,000 people. In June 2018, **the US pulled out of the Human Rights Council**, **calling it a** "**cesspool of political bias**" **and** "**hypocritical body**" that "makes a mockery of human rights". As it rejoined the council this year, the US not only failed to reflect upon its own human rights record and take concrete steps to improve it, but instead expelled Russia from the body out of political bias and purpose. Obsessed with its self-conceived "exceptionalism", the US keeps criticizing others for violating international law while applying international rules selectively or placing its own "house rules" above international law. **The US asks others to follow the** "**rules-based order", but tramples on international rules and withdraws from international organizations at will itself**, as evidenced by its unilateral military intervention or wars in Afghanistan, Iraq, and Syria, as well as its pulling out of UNESCO, JCPOA, and the Paris Agreement. It also puts domestic law above international law and has exercised long-arm jurisdiction and imposed economic sanctions against Russia, Iran and the DPRK, which seriously damaged the fair and just international trade environment. **The US is undoing its own credibility and reputation and undermining international order by bringing the world back to the era of a lawless jungle**. Just as Noam Chomsky pointed out, "We're a rogue state, the leading rogue state by a huge dimension—nobody's even close. And yet we can call for war crimes trials of others, without batting an eyelash." As the conflict in Ukraine continues, negotiation rather than confrontation is the only way out. **US unilateral sanctions against Russia are illegal and not authorized by the United Nations**. Excluding Russia, a permanent member of UN Security Council and a nuclear power, from international organizations is by no means a constructive move. The spokesman for the UN Secretary-General Stephane Dujarric once warned that such a move will set "a dangerous precedent." After all, there are already enough lessons from the wishful attempts to provoke confrontation and division and preserve hegemony.

#### The U.S.’s perspective is unique and wrong

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Speaking of the Ukraine crisis, U.S. Secretary of State Antony Blinken claimed at a Michigan University event that "this is not about siding with the United States. It's about siding with right versus wrong; it's about siding with the basic principles of the international system or for chaos and conflict." Blinken's message is that the U.S. represents democracy, international order, and the right side of history. **Whoever disagrees with the U.S. is wrong, and should be isolated and punished**. **It is an undisguised attempt to hijack policy decisions and public opinions of other countries, and to incarnate a Captain America purportedly supported by the majority of the global community. From what we have seen so far from the Ukraine crisis and before, the U.S. is not really in a position to claim moral leadership. One of the biggest question marks is American hypocrisy and double standards. How can a country preach about peace and order when it was**, as Jimmy Carter puts it, **“at peace for only 16 of its 242 years as a nation?" How can a country claim to be on the right side of history when it killed more than 387,000** [**Three-Hundred-Eighty-Seven-Thousand**] **civilians in the past 21 years since 9/11**? According to the Carnegie Endowment, Middle-Eastern citizens are "torn between sympathizing with Ukrainians […] and remembering how the world looked away as the same weapons were wreaking havoc in Syria and Libya only a few years ago." The U.S. is far from being a constructive force for peace in the Ukraine crisis. Turkey has provided a venue for a face-to-face talk between the conflicting parties. Israel has emerged as a mediator. And EU states including France, Germany, Austria and Hungary have sought direct dialogues with Russian President Vladimir Putin. Nevertheless, the U.S. has appeared to be the most reluctant to see the bloodshed end. Instead of promoting peace talks, the Biden administration has chosen to transfer lethal weapons, deliberately escalating tensions in Ukraine. What exactly are the principles of the international system that Blinken declares to defend? Very intuitively, most countries would stand for mutual respect, equality and shared benefits. But those are definitely not what the U.S., who has been vigorously forcing others to take sides, would choose to believe. To the disappointment of the U.S.,most countries are vigilant and even resentful to the "us versus them" mentality imposed by the U.S.. They want and have the right to make independent choices in their own interest, instead of being dragged into the big power rivalry. After all, one can't provide for its population by taking side. Time for a reality check. Out of the 233 countries in the world, only 48 joined in the sanctions against Russia. If considered from a population perspective, that ratio is 1.1 billion versus 6.5 billion, of which 4.8 billion are firmly against such sanctions. That means the vast majority of the world's population do not support America's sanction schemes. At the UN, 35 member states that account for almost half the world's population abstained from condemning Russia. And 82 countries opposed to or abstained from hastily suspending Russia from the Human Rights Council. **The U.S. bullying and unilateral sanctions have pushed developing nations to reconsider geopolitics and international justice in their own right**. None of the BRICS or Shanghai Cooperation Organization members supported sanctions, nor did the Arab world. India abstained in votes both at the UN Security Council and its General Assembly. South African president Cyril Ramaphosa said that "the war could have been avoided if NATO had heeded the warnings […] that its eastward expansion would lead to greater, not less, instability in the region."Israel, arguably America's closest friend, is keeping an open mind as Prime Minister Naftali Bennett has been more or less even-handed as a Russia-Ukraine mediator. The position of the U.S. and a few of its allies must not be mistaken for a global consensus. Sentiments on the Ukraine crisis should give Biden food for thought: **the old days of U.S. hegemony dictating to others are giving away to the irresistible call of the international community for peace, justice and a multipolar world order**.