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Sovereignty Begins in the Mind

Ethical Governance for Protecting Cognitive Liberty

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The Foundation for Bioethics in Technology is a U.S.-based nonprofit focused on ethical advocacy and public awareness around emerging technologies.

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INTERNATIONAL CONFERENCE ON NEUROTECHNOLOGY IN THE AGE OF HUMAN RIGHTS 2025.

Abstract:

Neurotechnologies—from brain-computer interfaces to AI systems capable of scanning and interpreting thought patterns—are advancing faster than the ethical and legal guardrails designed to protect the public. While organizations like UNESCO have issued global guidance aligned with the UN's Agenda 2030, these frameworks often overlook the most essential stakeholders: everyday people whose minds, bodies, and environments are directly affected.

This paper argues for prioritizing citizen awareness, empowerment, and the enactment of enforceable local laws. The Foundation for Bioethics in Technology is focused on helping people—many of whom are unaware such technologies even exist—understand how cognitive surveillance, neural data extraction, and experimental mind-interfacing technologies are already entering daily life, often without consent or regulation.

Neurorights must be more than aspirational principles. They must be real, actionable, and locally enforceable. In the United States, constitutional provisions such as the 9th and 10th Amendments support state-level action when centralized governance is absent or overreaching. For others around the world, community-driven protections may be the only viable path to preserving mental privacy and bodily autonomy.

The challenge of neurorights extends far beyond individual privacy. With the proliferation of 5G/6G infrastructure, the Internet of Bodies (IoB), and now the Internet of Minds (IoM), our environments are becoming saturated with technologies that emit radiation, process neural signals, and shape human behavior —frequently without public input or scientific consensus on safety. This is not a future risk—it is a current reality.

Moreover, the very AI systems driving these changes were built using the unknowing contributions of the global public. Years of conversations, behaviors, and biometric data were quietly harvested to train and refine systems now poised to govern education, labor, healthcare, and even thought. It is both ethical and necessary that the very people whose data and digital behaviors helped train these systems—without their awareness or consent—are now given a meaningful role in determining governance and establishing ethical barriers to deployment.

At the heart of our argument is this: **You shouldn't need a PhD or legal degree to understand—or protect—your own mind.** Neurorights must be made real at the local level. The Foundation for Bioethics in Technology is working to make this possible.

SOVEREIGNTY BEGINS IN THE MIND

SECTION 1: Introduction

Humanity is shrinking. Fertility rates have slipped below replacement in more than half the world,[145] and every demographer now concedes that the twenty-first century will end with fewer humans than it began.[159] In that stark demographic winter, each individual mind becomes exponentially more valuable: every male and female perspective, every neurodivergent pattern, every gradation of intelligence and imagination is a non-renewable resource.

Yet just as our numbers contract, an industrial apparatus for harvesting our inner life is expanding. Neurotechnologies such as brain-computer interfaces,[80] affect-detection cameras,[12] and predictive language models trained on our private correspondence[140] are moving from research labs into classrooms,[163] workplaces,[3] airports and train stations,[49] even the cars we drive,[40] not to mention our homes[173] and far-flung battlefields.[83] Spaces humans move through are now zones of biometric capture. These systems do more than watch us, they reach inside, mapping emotions,[33] intentions,[63] and half-formed thoughts,[57]converting subjective experience into corporate or state-owned datasets.[7]

But why? And who authorized this extraction?

In practice, no democratically elected body ever voted to allow the harvesting of the most intimate signals of the human brain. Instead, technical standards are quietly drafted by corporate consortia,[67] originally focused on marketing[137] and enhancing not only the user experience but shareholder value.[134] These same interests now find themselves operating under the guidance of unelected institutions.[73] Today, the United Nations' International Telecommunication Union helps coordinate the rollout of neuron-extractive technologies as essential components of modern "smart" living.[71]

This paper will trace the silent ascent of these governing forces of soft law frameworks[1] and examine how they quietly replace legitimate democratic participation[132] and threaten to preempt state-level protections for AI and neurodata privacy.[171] These forces combine to accelerate a future where technocratic authority overrides local self-determination.[165]

This paper contends that cognitive liberty, which is control over one's own mental processes, neural data, and perceptual privacy, is the last domain of human sovereignty. Sovereignty here begins at the individual level. Your mind is yours alone and must be impervious to extraction, modification, or market valuation.[50]

And yet, real legal protections are beginning to emerge, albeit unevenly. As of mid-2025, the U.S. states of California,[21] Colorado,[29] Montana,[97] and Connecticut[31] have enacted laws recognizing neural data as a sensitive category requiring explicit protections. These laws vary in strength. Colorado and Montana both require affirmative consent and deletion rights before any brain-derived data can be collected or retained.[81]California's proposed updates to its privacy framework lean toward an opt-out model,[22] while Connecticut's evolving law indicates broader categorical protections.[31]

These developments are not yet comprehensive, but they represent a significant shift: the acknowledgment that your thoughts are private and sovereign[68] and that the appropriate venue for defending them may not be a supranational entity or tech company review board, but the most local system of law capable of enforcing accountability. In the United States, the Fourth, Ninth, and Tenth Amendments[148] provide constitutional grounding for such decentralized defense.

Elsewhere, reforms like Chile's 2021 "neurorights" amendment to Article 19 of its Constitution ensure that science and technology serve the public while respecting physical and mental integrity. The law also mandates regulation of neurotechnology to protect brain activity and related data.[26]

If we surrender the unfiltered diversity of human thought to algorithmic extraction,[178] we risk engineering a future in which our species, already stressed by the effects of wireless radiation emitted by infrastructures,[115] may not survive biologically to witness the demise of its once-flourishing and varied culture. With creativity homogenized, dissent is predicted and neutralized before it can be spoken.[50]

Preserving the right to think differently is no longer an abstract moral good; it is an existential imperative for ensuring that humanity remains the author of its own future.

Section 2: How the Mind Becomes Data — Systems, Standards, and the New Extraction Infrastructure

In the early decades of computing, from the 1970s through the 1990s, software and hardware were notoriously incompatible.[24] Each manufacturer operated within its own silo. IBM mainframes ran proprietary code,[66] Apple developed its own operating systems,[8] and UNIX variants fragmented across universities and corporations.[125] Programs written for one machine rarely worked on another.[24] Communication between systems was clunky or impossible.

The solution to this fragmentation came through the slow development of shared standards. Protocols like ASCII standardized text encoding,[4] TCP/IP, introduced in 1983, created a common foundation for networking,[82] and HTTP along with the first web browsers in the early 1990s allowed information to move fluidly across devices.[15] At the software level, APIs (Application Programming Interfaces) became bridges, enabling different programs to communicate despite internal differences.[55] Over time, middleware and compilers helped translate data between formats.[59] Platforms like Microsoft Windows rose to dominate both public and private computing environments.[86]

This is where Bill Gates and the United States v. Microsoft Corp. case become relevant. In May 1998, the U.S. Department of Justice and several states sued Microsoft under the Sherman Antitrust Act,[86] accusing it of monopolizing the operating systems market and using Windows to promote Internet Explorer unfairly. After a judgment by Judge Thomas Penfield Jackson ordering a breakup in 2000, a federal appeals court reversed that decision in June 2001,[153] and the DOJ ultimately sought a less drastic settlement. This challenge, instead of weakening Microsoft, cemented its dominance. Government agencies continued adopting Windows, solidifying institutional dependency.

Today we find ourselves in a very similar situation. The systems involved are no longer spreadsheets and operating systems, but AI platforms,[51] biometric monitoring networks, and vast pools of biodata and neurodata.[128] Once again, the field is fragmented. The European Union's AI Act,[48] Japan's AI Promotion Act,[75] and the United States' patchwork of state laws [157] offer divergent approaches to regulation, oversight, and standards. Behind the surface, however, a new layer of

technical protocols is being quietly standardized. This time, the goal is to translate the human body and mind into machine-readable code.[171]

Biodata refers to biological information such as heart-rate variability,[128] facial microexpressions, [12] voice tone, [127] and gait. [109] Neurodata captures brainwave patterns from EEG sensors,[80] neural activity from fMRI scans,[84] eye-tracking data,[37] or subconscious microreactions inferred by AI.[78] This data is increasingly gathered not only from medical equipment, [85] but everyday devices such as smartphones,[165] smartwatches,[128] VR headsets, [130] gaming systems, [13] and workplace monitoring tools.[3] The goal is not just to observe behavior, but to digitize inner states, reducing fear, desire, memory, and attention into quantifiable metrics. [85]

These signals are encoded as .edf files for EEG time series,[77] .nii images for brain scans, or are streamed as JSON or CSV data for machine learning ingestion.[34] Once digitized, the data is stored in cloud infrastructure provided by Amazon Web Services, Microsoft Azure, and Google Cloud,[95] often cross-referenced with behavioral and demographic metadata.[140] AI developers use vector embeddings to map diverse inputs such as facial expressions, EEG spikes, and pupil dilation into shared mathematical spaces.[96] This enables merging multiple modalities into a single AI model capable of making increasingly accurate predictions about human thought and behavior.

Neurodata does not become consciousness. Rather, it becomes a machine-readable proxy for consciousness.[140] It is not the self, but it is enough like the self to allow systems to anticipate what a person will do, say, or feel next.[137] This predictability renders neurodata highly valuable. Whether for advertising,[140] behavioral nudging,[137] workplace surveillance,[3] or military applications,[103] neurodata is the raw material of a new informational economy. [61] In this emerging marketplace, inner states are the product, and prediction is the profit model.

The process of converting bioelectrical signals into machine-interpretable models is invisible to most people.[68] There is no public interface. No pop-up alert asks for informed consent. Yet the cognitive life of the individual is being extracted, translated, and commodified by systems whose code cannot be read and whose goals remain unknown. As in the early days of computing, the push toward interoperability is being framed as innovation. But this time, it is not word processing or spreadsheets that are being standardized — it is the human mind.[68]

In recent years, countries across the globe have begun to confront the uncomfortable truth that much of their AI infrastructure depends on foreign servers,[47] indexes, and training sets that they do

not control. When access to these systems was restricted in 2024, European developers began building localized alternatives for technical independence and to preserve cultural and regulatory autonomy. This was not just a question of cost or speed. It was an ethical response to the realization that AI systems trained on foreign assumptions can misrepresent or distort local values. [133]

In this context, bioethics should serve as the primary lens for assessing AI systems.[171] The right to think free from manipulation by systems whose training data, incentives, or feedback loops are concealed is more than a technical concern.[117] It is both a matter of human dignity[68] and a question of life's survival on Earth.[159,]

Control over servers and indexes is critical, [37] as they now underpin the tools that shape attention, belief, and behavior. [89] A society unable to trace the origins of its informational infrastructure, [37] while simultaneously trapped under constant surveillance,[3] cannot truly safeguard the cognitive liberty of its people. [68, 69]

SECTION 3: The Historical Context of Control

The modern struggle for cognitive liberty cannot be understood without examining the historical convergence of technology, finance, and ultimately, authoritarian governance. Although not the central focus of this paper, it is essential to briefly examine the evolution of money and banking to understand the modern incentives behind the insatiable search for data, particularly biometric and neurodata.

The historical development of money reveals a longstanding effort to control value creation through centralized institutions. Bill Still's documentary The Money Masters offers a sweeping account of how monetary policy has been shaped by powerful financial interests, from the founding of the Bank of England to the establishment of the U.S. Federal Reserve and beyond.[131] Murray N. Rothbard's A History of Money and Banking in the United States further documents how monetary control mechanisms have expanded through war, crisis, and political compromise, laying the groundwork for today's opaque coordination between federal institutions.[124]

"The few who understand the system will either be so interested in its profits, or so dependent on its favors, that there will be no opposition from that class. The great body of the people, mentally incapable of comprehending, will bear its burden without complaint and perhaps without even suspecting that the system is inimical [contrary] to their interests." — Rothschild banker John Sherman, in an infamous 1863 letter to New York agents.[129]

This backdrop is key to understanding the transition to digital finance and its relationship to data commodification. In 1972, the Club of Rome and MIT researchers published The Limits to Growth, warning that exponential economic expansion would eventually collide with environmental and resource constraints.[94] As the tangible economy became increasingly burdened by ecological and demographic pressures, attention shifted to intangible value extraction: human behavior, attention, and cognition.

The rise of television in the 1950s during President Eisenhower's "Total Cold War"[115,93] through the 1970s and into the booming consumer credit culture of the 1980s created the basis for this shift. Commercial jingles, public television for children, soap operas, game shows, and sponsored

programming normalized marketing through emotional engagement, repetition, and entrainment, thus establishing the human nervous system itself as a target of economic manipulation.

With the advent of 24-hour television news cycles deliberately designed to be highly engaging and, in many cases, addictive, the repetitive broadcast of traumatic events embedded psychological distress into vulnerable audiences.[61] This was especially true following the attacks on September 11, 2001. In an effort to restore public calm and project national resilience, President George W. Bush urged Americans to return to their routines, notably encouraging them to go shopping as a demonstration of confidence in the nation and the U.S. dollar.[76] Despite this appeal, the public, financial markets, and foreign currencies tied to the dollar remained deeply unsettled.

The introduction of Bitcoin in 2009 challenged state-controlled fiat monetary systems by offering decentralized, cryptographically verified transactions.[99] This also accelerated the legitimization of purely digital currencies, many of which are now tightly integrated into state and corporate infrastructure.[135]Emergency mechanisms such as the 2020 Fed–Treasury coordination fund[154] and Congressional provisions allowing the Treasury to backstop private financial institutions show how flexible and obscure monetary systems have become.

Artificial intelligence and blockchain are increasingly merging to meet urgent demands for data and computation that are verifiable, transparent, and auditable.[98] These are features essential for the next generation of intelligent, decentralized applications. However, these developments remain far removed from most people's everyday understanding. As currency becomes more abstract, the systems that support it now rely on vast amounts of digital data and increasingly on digitized human biometric and neurodata as the raw material for creating future value.

Ironically, it is ordinary people who are unknowingly supplying this data.

Currently, the global financial landscape is undergoing rapid transformation as the United States contends with unsustainable debt levels and a weakening dollar. This instability has fueled a broader movement away from dollar dominance. BRICS+, the expanded coalition of Brazil, Russia, India, China, South Africa, and new members totaling 143 countries, has emerged as a key actor in this realignment. At their July 2025 summit in Rio de Janeiro, Brazil, BRICS leaders issued a joint declaration titled *BRICS Leaders' Statement on Global Governance on AI*, emphasizing equitable, inclusive AI development under United Nations coordination.[19] While tangential to this paper's core focus,

the document reflects a growing geopolitical push to shift control of technological infrastructure and, by extension, data governance, away from U.S. led alliances.

In parallel, BRICS nations have engaged in strategic discussions about de-dollarization. U.S. monetary policy and the use of sanctions have incentivized the bloc to explore a shared currency unit and interoperable central bank digital currency (CBDC) frameworks such as "BRICS Bridge."[20] This emerging multipolarity coincides with significant developments in U.S. domestic policy. In July 2025, U.S. Congress passed three major bills during "Crypto Week": the CLARITY Act, the GENIUS Act, and the Anti-CBDC Surveillance State Act, all of which seeking to define the legal architecture of digital assets, regulate stablecoins, and restrict the development of a federal digital dollar.[147] Together, these global and domestic movements reveal a convergence. Namely, that both nation-states and transnational blocs are restructuring their financial systems and increasingly the data systems that underpin them in order to consolidate control over value extraction.

As digital currencies rise and the U.S. dollar loses its dominance, governments and corporations are actively seeking new assets to back and drive these financial systems toward ones that are abundant, renewable, and constantly produced.

That asset is human-generated data, especially behavioral, biometric, and neural data.

We're entering an economy where attention, intention, and emotion are being mined and monetized. Just as oil has powered economies via the U.S. dollar since the Bretton Woods Agreement, neurodata is becoming the energy source of algorithmic governance and financial modeling.

In such a framework, human worth is no longer inherent but calculated, measured, predicted, and priced by algorithms that interpret the mind itself as a source of extractable value. Those whose neural patterns deviate from norms may be excluded from full participation in the economy or deprioritized in resource distribution. The nervous system thus becomes not only the final frontier of surveillance, but the basis of a new biopolitical hierarchy. One that silently governs who thrives, who survives, and who disappears from the algorithmic ledger.

SECTION 4: Infrastructure as Control

The infrastructure of modern communications, whether terrestrial towers, undersea cables, satellites, weather radars, or rain gauges is never neutral. From the earliest days of Guglielmo Marconi's transatlantic radio experiments, the same systems used to connect people have also been harnessed for state power, military command, and information control.[87] Marconi's close alignment with Benito Mussolini's fascist government, his leadership role in the Royal Academy of Italy, and his directorship of the National Research Council (CNR) after pledging loyalty to the regime, illustrate how technical innovation can be absorbed into authoritarian projects.[42] Vatican Radio, launched under Marconi's guidance after a papal annulment of his first marriage enabled his union with a well-connected socialite,[118] served not only as a pastoral voice but as a strategic node in global information flows. It is an early example of dual-use infrastructure hidden in plain sight. A religious broadcast on the surface, but also an instrument for shaping political narratives across borders.

Today, similar dual-use logic applies to the skies.[104] Under U.S. law, private property rights end at navigable airspace, traditionally defined as above 500 feet,[52] leaving the upper atmosphere and orbital space beyond national ownership. International treaties, such as the Outer Space Treaty[142], prohibit claims of sovereignty over outer space, yet the infrastructure placed there such as satellites, weather-monitoring systems, and military communications platforms, not to mention weaponry, forms the backbone of modern surveillance, targeting, and environmental manipulation capabilities.[43] This legal vacuum has allowed military and intelligence assets to operate above national territories without direct civilian oversight, creating a new battle-space where command of the electromagnetic spectrum is as decisive as control of the seas once was. Hence, the creation of the US Space Force.[156]

The result is a strategic environment in which communications, meteorology, and weapons systems are intertwined, blurring the line between civilian service and acts of war.

Currently global infrastructure based upon weather modification systems from Doppler radars (NEXRAD) and satellite constellations to cell tower arrays operate as part of an integrated environmental sensing and communication grid.[101] This grid is dual-use by design: it provides meteorological data for weather forecasting while also enabling military targeting, surveillance, and command functions. The U.S. Federal Weather Enterprise, now entitled "The Federal Meteorological

Enterprise", had been coordinated by NOAA, and sits at the nexus of these functions.[110] NOAA itself operates under the Department of Commerce the same department headed by Gina Raimondo from 2021–2025.[151]

As Secretary of Commerce, Raimondo oversaw one of the largest meteorology and atmospheric experimentation budgets in the world, while NOAA worked in tandem with the United Nations' World Meteorological Organization (WMO). [168] The WMO,[168,169] in turn, operates in partnership with the International Telecommunication Union (ITU)[71] a UN specialized agency that guides global telecom and frequency allocation standards. [72] This creates another inherent conflict of interest: the same ITU member states deploying wireless and radar infrastructure for public communications also operate it for military intelligence, environmental modification, and atmospheric sensing.

This dimension is compounded by the evolving role of the U.S. National Guard.[100] By statute and tradition, each state's National Guard is subordinate to its governor and thus to civilian authority.[149] However, the integration of state Guard units into US/NATO operations blurs this chain of command, creating an unresolved conflict of interest when these forces operate systems, such as weather radars, rain gauges, satellite links, or communication nodes, that are simultaneously military assets and civilian utilities.[102,106]

The *From Towers to Clouds* analysis makes this plain: the same towers carrying 5G/6G traffic are integral to weather prediction and cloud seeding operations and weapons systems.[172] There are no agencies in the United States tasked with monitoring or limiting the continuous microwave radiation pollution these facilities emit, despite its documented biological and environmental effects.[16,25,46,115,170,175] This harmful pollution is not incidental. It is the carrier signal for the bio- and neurodata streams central to AI training and behavioral modeling. In other words, the infrastructure does not just enable communication; it is the bloodstream of the technocratic control system.

In Rhode Island, this convergence is not theoretical. In 2018, the Speaker of the House appointed me to the state's first Geoengineering Study Commission,[92] which went on to help craft legislation widely regarded as the strongest in the world for asserting local authority over weather modification.[121] This legislative effort directly challenged the integration of military-aligned atmospheric systems into civilian life.

"Few in the civil sector fully understand that geoengineering is primarily a military science and has nothing to do with either cooling the planet or lowering carbon emissions… While seemingly

fantastical, weather has been weaponised." —Matt Andersson, Former executive adviser, aerospace & defence, Booz Allen Hamilton, Chicago 2012. [6]

Recent investigations further reveal that experimental weather modification is being conducted not only via aerosols or cloud seeding but also through targeted electromagnetic interventions—methods documented in submissions to NOAA that connect directly to UN-coordinated frameworks such as the World Meteorological Organization (WMO)[167] and United Nations Office for Outer Space Affairs.[145]

These technologies are not confined to abstract doctrine or distant conflict zones. In the U.S., a Peter Thiel funded startup named Rainmaker, known for its cloud-seeding operations, has been actively lobbying to block state legislation aimed at banning weather modification and geoengineering activities.[119] Public records reveal targeted campaigns against lawmakers introducing such bills.

Institutions like the ITU, IEEE, ISO, NATO and the WMO coordinate technical harmonization at a planetary scale. [67] The ITU, a non-elected agency operating under the United Nations umbrella, serves as the chief soft-law engine behind global electromagnetic governance. It develops voluntary technical standards that often become binding through infrastructure deployment, despite the absence of legislative oversight. This process enables the rollout of pulse-modulated wireless systems that claim to support weather forecasting or telecommunications, yet are simultaneously used for commerce, surveillance, and military applications.[104]

The ITU coordinates electromagnetic frequency allocation and interoperability for the Internet of Things (IoT), Internet of Bodies (IoB), and biometric surveillance systems. Under its umbrella, the World Meteorological Organization operates the Global Telecommunication System (GTS), a distributed sensing architecture that not only observes weather but helps facilitates activities in atmospheric experimentation.[168] Increasingly, the atmosphere itself is being leveraged as a global sensor network[35], capable of passive and active data collection across borders, through airborne, satellite, and ground-based technologies operating in sync with surveillance and climate engineering infrastructure.[36]

As historian Paul Edwards notes: "This history illustrates a profoundly important transition from voluntarist internationalism, based on shared interests, to quasi-obligatory globalism, based on a more permanent shared infrastructure."[45]

That infrastructure is now capable of supporting remote neural monitoring, emotion prediction, and cognitive disruption. It does so through what NATO is calling "cognitive warfare."[103] While these terms may seem abstract, their consequences are visible, and nowhere more clearly than in Rhode Island.

In 2018, and continuing through the height of the COVID-19 pandemic emergency, then-Governor Gina Raimondo, with no informed legislative approval or public consent, offered Rhode Island as a 5G testbed for Verizon.[161] Wireless Telecommunications Facilities (WTFs) were placed directly in front of dorms and homes around Brown University[162] and in working-class neighborhoods. Residents had no right to object, no ability to shut them off, and no avenue for recourse.

While it's true that municipalities technically must approve 5G deployments, the Rhode Island Small Cell Siting Act of 2018 obscured key specifications from public view.[122] That legislation was pushed through with minimal public hearings, supported by a former New England Telephone* lobbyist who also served as the Administrator of Warwick Public Works and Carriers. Behind the scenes at the RI State House, a Senate Policy Analyst and Attorney also advanced the measure; this individual was later appointed by Governor Raimondo to the very position the lobbyist had left.

The Act[122] allowed companies to bypass transparency by protecting the "corporate person" entity's right to privacy. As a result, residents were left unable to know what was being installed, by whom, or why while being forced to endure mandated, involuntary exposure to a hazardous physical agent, also known as assault by microwave radiation.

This deployment strategy mirrors what Claire Edwards, a former United Nations editor and translator, once described as: "5G serves many purposes. It is a depopulation and military weapon… enabling surveillance, facial recognition, 24/7 monitoring of individuals and mind and body control."[44]

This statement takes on greater significance when placed alongside NATO's official definition of cognitive warfare: "A more advanced form of psychological warfare that seeks not only to influence what people think but to alter how they think—manipulating perception and cognition through electromagnetic, digital, and environmental means."[103]

Dr. James Giordano, senior scholar at Georgetown University and consultant to the U.S. military, has described the cutting edge of this infrastructure's purpose with disarming clarity: "Where it gets truly Next-Gen…is the idea of non-surgical intervention and implantation…that reads into the

brain and writes into the brain, that is updatable, that is retrievable, is reprogrammable, and involves a host of different technologies and sciences to be able to put a vast array of sensing and transmitting electrodes into the brain space, on a sub micro scale, either by using inhalants, injectables, or ingestibles, and then organizing these things into the brain through some use of electromagnetism to establish literally a vast array … to reach into the noise floor of the brain and read out remotely in real time what the brain is doing… and then couple that via big data and various decisional AI technologies into a read program that allows us to essentially interpret brain activity in terms of its cognitive content and then to turn that around and use those same vast arrays of sensors and transmitters to read out from but also to write into the living brain in other words now to influence if you will, cognition, emotion, and ultimately behavior. Well folks, there's no getting around [this is] about as close to mind reading and mind control as you can get the reason for that is that's exactly what we're doing..."[60]

The commercial viability of such nano-enabled surveillance is not theoretical. Strategic investment forecasts project exponential growth in the global smart dust market between 2025 and 2034, covering nano systems, biosensors, and neural interface technologies designed for environmental monitoring, defense, and real-time behavioral analytics.[108]

Nor is this speculative futurism. The U.S. Army's MindWar doctrine stated decades earlier: "MindWar… must be strategic in emphasis, with tactical applications playing a reinforcing, supplementary role. In its strategic context, MindWar must reach out to friends, enemies, and neutrals alike across the globe… through the media possessed by the United States which have the capabilities to reach virtually all people on the face of the Earth." "…this weapons system uses existing communications media. It seeks to map the minds of neutral and enemy individuals and then to change them in accordance with U.S. national interests. It does this on a wide scale, embracing military units, regions, nations, and blocs. In its present form it is called Psychological Operations (PSYOP)." [9]

Adding to this context is Gina Raimondo's political trajectory. Though widely unpopular in her home state after gutting pensions and backing controversial investments, she gained national prominence through her handling of the pandemic and her embrace of digital infrastructure projects.[123,133,135,136] She was one of only two governors to endorse billionaire Michael Bloomberg's presidential campaign, eventually joining his national campaign committee. [17] Bloomberg, through his media empire and initiatives like the *Post Human* documentary series on Bloomberg TV, he has long promoted "transhuman" narratives centered on data, automation, and augmentation. He is also

the UN Secretary-General's Special Envoy on Climate Ambition and Solutions.[18] Despite, or perhaps because of, her association with Bloomberg, she was appointed by President Biden to the position of U.S. Secretary of Commerce.

By 2025, Raimondo had left public office to take a seat at the Council on Foreign Relations (CFR), a private organization founded in 1921 with longstanding ties to Wall Street, major media, and U.S. foreign policy elites. Researchers such as James Perloff and Patrick M. Wood have argued that institutions like the CFR and the Trilateral Commission, established in 1973 by David Rockefeller and Zbigniew Brzezinski, have played a pivotal role in shaping national and global policy by embedding their members in key governmental positions. Listed as think tanks, these organizations have quietly advanced a vision of international integration and technocratic governance, often outside the purview of democratic oversight.

Raimondo had successfully positioned Rhode Island as a testbed for emerging biometric, financial, and surveillance technologies. The state has just over one million residents and a land area of 1,033.6 square miles. Its location between the financial center of New York City and Boston, Massachusetts made it an ideal site for experimentation. While her actions broke no laws, and many remain proud of her as the state's first female governor, the legacy of her tenure offers a sobering glimpse into how easily a small state can become a proving ground for global systems of control.[63,136]

Legal frameworks lag not because they are slow, but because they are designed to fail. The FCC's Radio-frequency microwave (RF/MW) radiation emissions guidelines remain unchanged since the 1990s.[53] Small Cell Siting laws strip local authorities of regulatory power.[157] In Rhode Island, even the most engaged citizens were given no warning, no means of objection, and no way to prevent deployment.[161]

Criminal law does not recognize cognitive intrusion. Tort law requires proof of causation against non-transparent corporate entities. International human rights frameworks do not define the brain as sovereign space. As a result, experimental neurotechnologies such as remote sensors, pulsed microwave exposure, and cognitive disruption systems are being deployed on the public without their knowledge or informed consent.

As the philosopher Herbert Schiller once called it, "electronic colonialism"[32] has evolved into full-spectrum neurocapitalism: the extraction of thought, mood, and biometric behavior for predictive control and economic profit. In Rhode Island, and in similar cities across the world, utility poles

bearing boxes are emitting invisible electromagnetic microwave radiation pollution [175,178] and the bodies below them are considered data sources, not citizens.

Illustrating this intrusion, in 2025 researchers at La Sapienza University developed WhoFi, a non-invasive surveillance system capable of identifying and tracking individuals solely by analyzing how their bodies disrupt Wi-Fi signals. [79] The system achieved accuracy rates above 95 percent across multiple locations, even when the person carried no cellphone or transmitting device.

Palantir,[117] a key defense contractor co-founded by Peter Thiel, now openly provides prediction and targeting software to foreign and domestic militaries. As one journalist summarized: "For Palantir, overseas wars are clearly paying off, but not so much for Palestinians or, for that matter, Americans who may find themselves subject to this prediction, surveillance, and targeting technology, soon enough."[164] And Planatir does not work alone. As the AP has documented, Microsoft, OpenAI, Google, Amazon, Cisco, Dell, Red Hat (IBM), Palantir, and Oracle all form part of the infrastructure enabling these AI-driven military-grade systems. [10]

The United Nations' Pact for the Future, signed in 2024, affirms its commitment to connect all persons to the Internet to unlock the benefits of digital transformation. [144] Yet nowhere in that document is the principle of mental or cognitive sovereignty acknowledged.

And so we are left with a paradox: a global agenda for connectivity that bypasses consent, a technological arms race that ignores law, and a generation of people being rewired without warning and without defense, and most disgustingly the entire global atmosphere being electromagnetically violated for profit and experiment.[35,36] The through-line from Marconi's fascist-era radio network to the present state of affairs is unbroken: infrastructure built for communication invariably becomes infrastructure for influence and domination.

We must now affirm what history and ethics demand: the mind is sacred ground. Its invasion, no matter how advanced the tools or how covert the warfare, remains a violation of the highest order.

*New England Telephone, after a series of corporate mergers, became Verizon and a member of the ITU.

SECTION 5: Defending Sovereignty — A Path Forward

"I think, therefore I am." — René Descartes, 1637 [39]

This declaration marked the recognition of individual consciousness as the bedrock of existence. Today we face another turning point, at the intersection of neurotechnology, AI, and planetary infrastructure. At stake is not only privacy or policy, but the sovereignty of the self and the survival of life on Earth.

As Stefan Savage noted during the 2020 ACM SIGCOMM privacy panel: "We're not going to get better privacy or better outcomes by only educating engineers or adults. We need to start much earlier, before people become products in these systems."[126] Five years later, no meaningful federal framework protects the minds or data of children surrounded by surveillance-grade ed-tech and unregulated AI tutors. Biometric feedback, eye tracking, emotional responses, and even neural signals are harvested daily, with no standardized guardrails, only fine-print disclaimers.[58] What once seemed science fiction now defines daily life, especially in under-resourced schools where platforms double as data-mining tools.[163]

A path forward requires AI literacy across all ages, public awareness campaigns tailored for families, youth, and seniors, and classroom guidelines that treat student neurodata as sacred.[126] Legal models must rest on consent, and legislation must affirm that mental autonomy is non-negotiable. Policies need to ban non-consensual neurotechnological experimentation, reinforce local control over wireless infrastructure, and mandate transparency for all platforms interacting with human cognition.[50]

(1) Improving the fundamental understanding of weather consistent with section 101, including the boundary layer and other processes affecting high impact weather events.

(2) Improving the understanding of how the public receives, interprets, and responds to warnings and forecasts of high impact weather events that endanger life and property.

(3) Research and development, and transfer of knowledge, technologies, and applications to the National Weather Service and other appropriate agencies and entities, including the United States weather industry and academic partners, related to—

(A) advanced radar, radar networking technologies, and other ground-based technologies, including those emphasizing rapid, fine-scale sensing of the boundary layer and lower troposphere, and the use of innovative, dual-polarization, phased-array technologies;

(B) aerial weather observing systems;

(C) high performance computing and information technology and wireless communication networks;

(D) advanced numerical weather prediction systems and forecasting tools and techniques that improve the forecasting of timing, track, intensity, and severity of high impact weather, including through—

(i) the development of more effective mesoscale models;

(ii) more effective use of existing, and the development of new, regional and national cloud-resolving models;

(iii) enhanced global weather models; and

(iv) integrated assessment models;

(E) quantitative assessment tools for measuring the impact and value of data and observing systems, including Observing System Simulation Experiments (as described in section 107), Observing System Experiments, and Analyses of Alternatives;

(F) atmospheric chemistry and interactions essential to accurately characterizing atmospheric composition and predicting meteorological processes, including cloud microphysical, precipitation, and atmospheric electrification proc-

SOURCE : https://www.congress.gov/115/plaws/publ25/PLAW-115publ25.pdf.

While international efforts exist, like the UNESCO guidance on neurotechnology and AI ethics,[141] these remain toothless without localized enforcement.[175] Still, UNESCO's 2021 guidance demonstrated rare foresight, offering an early signal buoy for those who would soon look to The Foundation for Bioethics in Technology as a lifeboat against the rising tide of technological overreach. The Foundation works to empower states, municipalities, neighborhoods and individuals to adopt enforceable norms, with or without federal consensus.[56]

We recognize that we need a bioethics-by-design framework that anticipates hazards before they harm. Just as universal design [23] spawned by the Americans with Disabilities Act (ADA) made physical spaces safer and more accessible,[5] digital and neural environments must prioritize safety,

inclusion, and agency. Whether a child with a biometric toy or an adult navigating a smart city, all must be educated on the hazards. This includes designing sovereign data enclaves where biometric and cognitive data are citizen-controlled, third-party auditability of neurotech platforms is preformed, and a Cognitive Liberty Certification program akin to Fair Trade or LEED standards is enacted.

Originally, U.S. policy aimed to hardwire homes with secure and energy efficient fiber-optic internet, which is faster and safer than wireless alternatives.[27]That promise was quietly replaced by microwave-emitting towers, often sourced through international supply chains.[150] The result is infrastructure that homeowners and local governments cannot fully control. Towns, private residences, schools, and places of worship are continuously exposed to (RF-EMR) with no legal recourse to shut it off. Whether by accident, exploitation, or design, such systems pose national security and human rights threats that demand urgent redress.[44]

People must have the right to opt out entirely from systems that expose them to hazardous physical agents and/or extract neurodata.[160] For those who engage,[51] transparency and auditability must be guaranteed. Safe spaces—both physical and digital—must exist where individuals are free from manipulative algorithms,[60,160] and harmful exposure.[16,46] Above all, the right to remain offline, biologically untagged, and mentally private must be preserved as a fundamental human right.

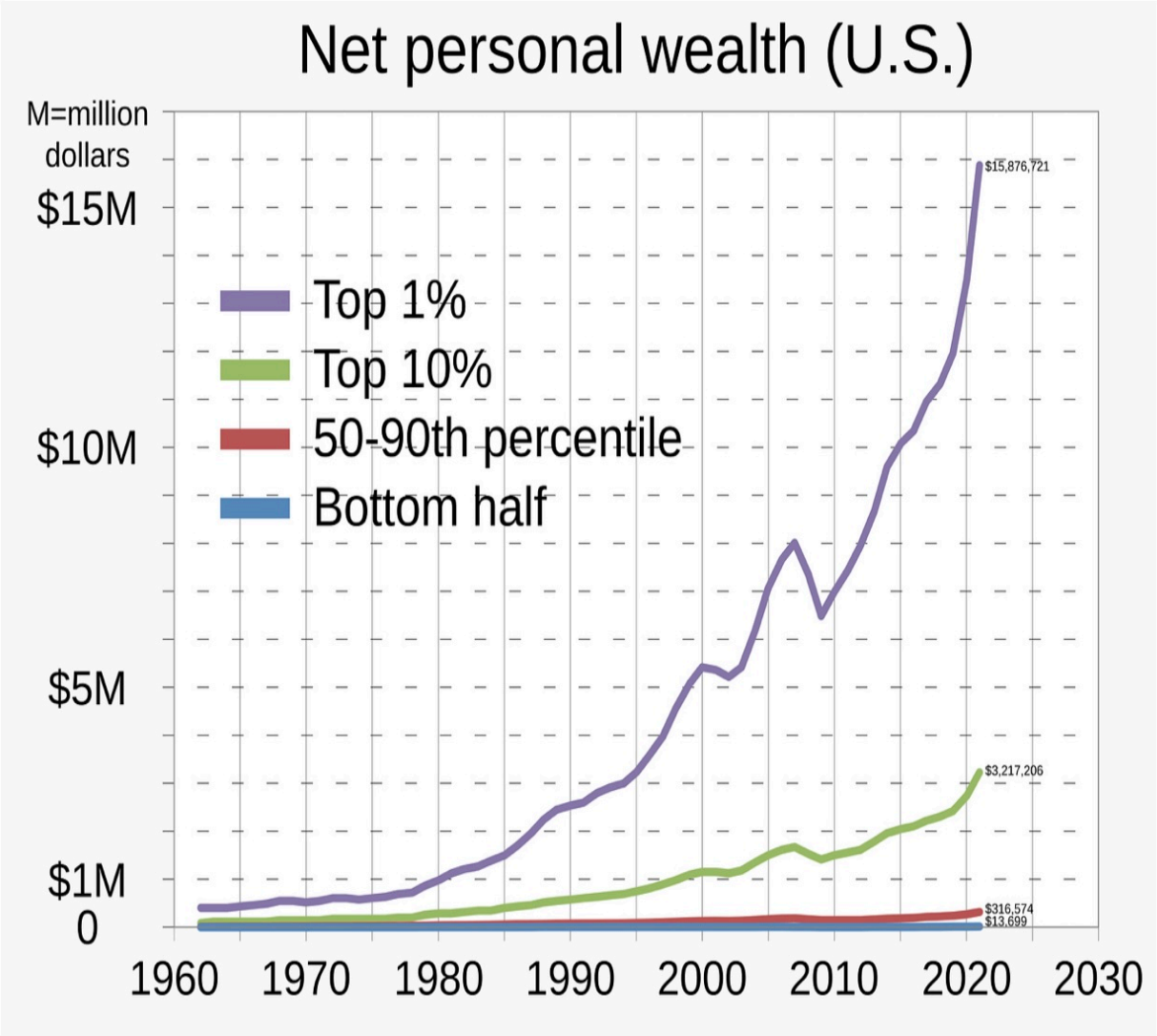
Cognitive liberty is non-negotiable. Informed consent must govern all human–machine interaction, especially at the neural level. Communities must be equipped to monitor environments, measure exposures, hold decision-makers accountable, and enact ordinances that preserve true bodily sovereignty. Education, advocacy, and vigilance must converge so that the future is not passively endured but actively shaped.[50]

Alison McDowell, researcher and host of Wrench in the Gears, raised the alarm years ago about the financialization of human life through human capital markets. In a 2017 Shadow Citizen interview, she explained how social-emotional learning (SEL) systems in schools were not designed to educate, but to generate behavioral data monetized through Human Capital Bonds—financial instruments pioneered by Goldman Sachs in prison management. Predictive analytics first used for parole eligibility were retooled for children.[90,91]

Palantir Technologies epitomizes this architecture. Once known for counterterrorism, it has become indispensable to the state. Its Gotham and Foundry platforms now drive immigration enforcement,

predictive policing, battlefield coordination, and even pandemic logistics. WIRED magazine has noted Palantir's growing role in education, health care, and child welfare, domains where "pre-crime" analytics risk overriding human judgment with algorithmic prophecy.[164]

In 2025, Palantir secured billions in contracts to serve as the AI backbone for the Departments of Defense *and* Health and Human Services[11]. These two agencies were integral for Operation Warp



WID.world, *Evolution of Wealth Indicators, USA* (World Inequality Database, 2022)

Speed which concurrently facilitated distribution of emergency use experimental mRNA vaccines and wireless internet. It was at that point that the U.S. dollar, once tied to gold and later to oil, became tethered to US stock market performance.[74] You might notice from the chart above, that the 2008 housing collapse was financially more devastating than a pandemic for the people who had money. Artificial Intelligence has become the latest driver of inflated valuations. While pushing the

stock market to all time highs, AI is actively maintaining the grossly devalued USD, just as COVID-19 and Pfizer were once fueling the largest wealth transfer in history under the CARES Act.[28] The Ukraine conflict bridged that boom into defense spending, and the current AI frenzy shows familiar signs of Bernays-style propaganda.[88,17]

History warns where this ends. Sir John Glubb, in The Fate of Empires (1977), observed that declining states chase spectacle and profit while neglecting the virtues that secured their rise.[62] Lesser powers may seize the wreckage but fail to govern it ethically. Without foresight and moral compass, technological mastery becomes a hollow prize.

Today, acronym-driven bureaucracies obscure their scope. The Interagency Council for Advancing Meteorological Services (ICAMS) shares initials with "Identity, Credential, and Access Management" (ICAM) systems. Both are tied to the UN's ITU. The same letters can mean weather surveillance or digital identity control. Together they form a lattice of atmospheric monitoring, biometric ID, and access rights.

The Atmosphere as a Global Sensor (2024) documents show that global monitoring infrastructure integrates satellites, towers, and radar for both meteorology and biometric surveillance. The environment becomes a control surface. Coupled with human capital markets and AI analytics, the result is a vertically integrated system of governance, largely unaccountable to the public it monitors.

As President John F. Kennedy told the United Nations in 1961: "We shall propose further cooperative efforts between all nations in weather prediction and eventually in weather control. We shall propose, finally, a global system of communications satellites linking the whole world in telegraph and telephone and radio and television." [142]

What began as a hopeful vision of cooperation has become the scaffolding for global surveillance and technocratic control. Jeff Bezos started with books, but now Amazon Web Services (AWS) powers the backbone of global surveillance, while in military doctrine AWS can also mean Autonomous Weapons Systems.

It is in this environment that The Foundation for Bioethics in Technology takes its stand.
Sovereignty begins in the mind. Our mission is to ensure the next generation inherits not just convenience, but dignity and freedom. Join us in shaping the future of technology ethically, because innovation without ethics is catastrophe.

STAY HUMAN EVERYONE!™

The Foundation for Bioethics in Technology

#CognitiveLiberty #DualUseInfrastructure #InformedConsent

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Rachael L. McIntosh is the founder and executive director of The Foundation for Bioethics in Technology, a U.S.-based nonprofit dedicated to empowering people through education and ethical advocacy at the intersection of emerging technologies and human rights. With a background spanning the defense industry, fine arts, and public communications, she brings a multidisciplinary approach to advancing cognitive liberty and local legislative action. Her work supports the belief that ethical technology governance must be understandable and accessible to everyone—not just academics and policymakers. She lives and works in Rhode Island, where she actively contributes to state-level policy initiatives.

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Appendix A

FY2026 Department of Defense NOTICE OF FUNDING OPPORTUNITY (NOFO)

I. Other Information

1. TOPIC DESCRIPTIONS

Topic 1: (AFOSR) Characterization and Modeling of the Mesosphere and Lower Thermosphere

Background: The mesosphere and lower thermosphere, at about 50- 120 km altitude, is often called the "ignorosphere" due to being too high for investigations using balloons and too low for probing with satellites. The addition of significant and increasing quantities of human-made materials to the region, primarily via ablation of spacecraft during reentry and emissions from spacecraft fuel systems due to the increase in launches and mega-constellations to LEO, is requiring scientists to quantify how increased human activity is modifying the upper atmosphere. Reliable and accurate models of the upper atmosphere will be increasingly essential to manage potential VLEO assets, to predict or adapt to abrupt changes to atmospheric plasma concentrations and must account for these new materials present in the atmosphere. Yet, currently, no effective model of thermospheric winds exists, and the reactivity of new materials now being added in the upper atmosphere is unknown. Reactions of such metals are complicated by the multiplicity of electron spin states they possess whose effects on reactivity are not well understood or described by existing theoretical and computational chemical methods. These spin-effects can create large barriers to some metal-atom reaction pathways creating the need for experimental and theoretical studies to determine what forces control this reactivity, hence determining the dominant reservoir species and the chemical mechanisms and networks that control them. There is a gap in information about the chemical composition, size distribution, movement, and abundance of novel elements introduced to the thermosphere in this altitude range which cannot be addressed in a scalable way with existing techniques. While several methods have been developed to monitor upper atmospheric winds, temperatures, and component densities from the ground, including meteor radars, rockets, and various lidar methodologies, new remote sensing methods and tools are needed to make this probing more accessible to many US scientists, and provide the large streams of data needed for improved assimilative modeling at a larger range of altitudes. Current atmospheric models do not include the possible chemistry and radiative transfer effects of black carbon particles or introduced metals, particularly aluminum, to the mesosphere or stratosphere. Predicted impacts from the first estimates of these species to the upper atmosphere are both not well understood and expected to be large. Developing a fundamental understanding of the forces that control the sources of materials in this region, and their behavior, is essential to properly model the behavior in this region based on solid foundational information. A wide-ranging, collaborative, multidisciplinary effort is needed to expand and improve ground- or satellite-based monitoring of chemical concentrations and dynamics in the upper atmosphere, to determine relevant chemistries via laboratory studies, to incorporate such data into existing or improved atmospheric models, to use those models to better specify current and future atmospheric conditions (e.g. density, temperature, chemical composition), and to understand the impacts of those conditions on Earth systems and LEO and VLEO space resiliency.

Objective: The objective of this program is to develop the fundamental and comprehensive understanding needed to accurately characterize, model, and predict the behavior of species in the upper atmosphere, particularly the impact on atmospheric chemistry and dynamics. A multidisciplinary effort is needed that includes remote sensing, atmospheric modeling, chemical kinetics, mechanisms, and dynamics, to collect and assimilate the needed understanding and data, and collaboratively develop predictive models.

Research Concentration Areas: Suggested research areas include but are not limited to 1) Development of novel tools and methods that would enable accessible and scalable ground-based sensing methods for accurately determining the concentrations of major and less prominent gas-phase species and particulates at different altitudes in the mesosphere and lower thermosphere. 2) Understanding the rates and mechanisms of reactions of species (of natural and human-made origin) in the mesosphere and lower thermosphere that affect the dynamics, lifetimes, and radiative transfer properties. 3) Development of robust and predictive models of the mesosphere and lower thermosphere that incorporates new knowledge of chemical speciation in the atmosphere and describes the behavior, dynamics, and interaction with materials that might affect space enterprise resiliency.
Anticipated Resources: It is anticipated that awards under this topic will be no more than an average of $1.5M per year for 5 years, supporting no more than 8 funded faculty researchers. Exceptions warranted by specific proposal approaches should be discussed with the topic chief during the white paper phase of the solicitation.

Research Topic Chiefs: Dr. Julie Moses, AFOSR, 703-696-9586, julie.moses@us.af.mil; Dr. Michael R. Berman, AFOSR, 703-696-7781, michael.berman@us.af.mil; Dr. Michael Yakes, AFOSR, 703-835-6716, michael.yakes@us.af.mil; Dr. Andrew Sinclair, AFOSR, 703-696-1141, andrew.sinclair.2@us.af.mil.

Topic 2: (AFOSR) Ethical Constructs and Adaptive Learning Systems

Background: The field of Artificial Intelligence (AI) is evolving at an extraordinary pace and has started to have a profound influence on society. The convergence of transformative AI science in generative models [1], classification methods [2], and learning frameworks [3] used in Adaptive Learning Systems (ALS) leads to new forms of Human-Machine Teaming (HMT), creating both challenges and opportunities for the DoD mission. Responsible use of AI is one of the five core tenets of HMT, and a critical research area for the DoD. This implies that there is an urgent need to understand, develop and verify means of implementing ethical principles into AI. The opportunities lie in the convergence of multiple scientific disciplines and disparate viewpoints, which may allow ground-breaking advances in the formulation and interpretation of core ethical principles and factors, which can then potentially bind the AI performance to acceptable ethical behavior, via appropriate measures and norms [6, 7, 8, 9, 10]. The challenges are also formidable, and despite the growing and widespread interest in the problem [4,5], solutions will require foundational scientific research. The problem is also particularly difficult for the DoD, which is faced with an increasing urgency to advance responsible artificial intelligence (RAI) in scenarios of HMT and environments which are intrinsically uncertain, stochastic, adversarial and rapidly changing. A principal feature of the problem is that ethics are a social construct and are not rigorously defined and delimited. Interpretation of ethical principles by an AI calls for new fundamental, mathematical approaches to the problem. Traditional methods of control of autonomous systems may not apply, unless for some trivial scenarios; probabilistic approaches call for large-scale experimentation and data-mining, which is not entirely realistic for defense applications. Ethical theories may be leveraged as guidelines, but these are developed for human society, and we should not assume that ethical concepts in ALS would mirror the human ethical structures. In fact, there is empirical evidence that rationales and perceptions of ethical behavior by humans, versus robots, are different. Thus, one may have to account for the complexity, in HMT, of interpreting ethical behavior by humans and machines in multiple directions (H-H, H-M, M-H, M-M, and clusters…).

SOURCE : https://zerogeoengineering.com/2025/fy2026-department-of-defense-notice-of-funding-opportunity-nofo/

Appendix B

State of Rhode Island and Providence Plantations

REPRESENTATIVE
NICHOLAS A. MATTIELLO
Speaker of the House

Room 323 State House
Providence, Rhode Island, 02903

401-222-2466

House of Representatives

December 31, 2018

TO THE HONORABLE SECRETARY OF STATE:

I have the honor to inform you that I hereby appoint:

Ms. Rachael McIntosh
Former Defense Industry Contractor
[redacted]
East Greenwich RI 02818

to the Special Legislative Commission to study the establishment of procedures to regulate and license the intentional manipulation of the Global Environment through Geoengineering

Sincerely,

Nicholas A. Mattiello
SPEAKER

cc: Gina Raimondo, Governor
Lynne Urbani, Director House Policy
Appointed Member
Legislative Press
Legislative Data

State of Rhode Island and Providence Plantations

REPRESENTATIVE
NICHOLAS A. MATTIELLO
Speaker of the House

Room 323 State House
Providence, Rhode Island, 02903

401-222-2466

House of Representatives

December 31, 2018

Ms. Rachael McIntosh
[redacted]
East Greenwich RI 02818

Dear Ms. McIntosh:

It is my pleasure to appoint you to the Special Legislative Commission to Study the establishment of procedures to regulate and license the intentional manipulation of the Global Environment through Geoengineering.

I appreciate you dedicating your time and look forward to receiving the good work of the Commission going forward.

Sincerely,

Nicholas A. Mattiello
SPEAKER

Appendix C: Multimedia Source

ShadowCitizen. Alison McDowell Part 2: Map of Rhode Island SC 007. YouTube, uploaded Feb. 24, 2021.
Part 1: https://www.youtube.com/watch?v=jLI_Rvcwypk
Part 2: https://youtu.be/FQydOKSc1UU?si=AJ8MkuOCYvl1NljF

Rachael McIntosh interviews researcher Alison Hawver McDowell, founder of WrenchInTheGears.com, on the intersections of human capital finance, education technology, 5G, and the Internet of Bodies. McDowell describes this as a 'Disneyland of social impact investing,' with key moments addressing income-sharing agreements (11:56), the Lumina Foundation (14:03), and UNESCO (50:44).

This video, along with other ShadowCitizen episodes, was previously unavailable after being scrubbed from YouTube. Its recent reappearance is significant for the public record and the documentation of this research.