

TransHuman/Machine Fusion For Cyborg Soldier By 2050

Description

The military created the Internet and still controls it, hiding in plain sight. The military sparked Transhumanist technologies (NBIC) in the 1990s to produce “supermen” fighting machines to dominate the war field. **“genetic engineering, synthetic biology, nanotechnology, artificial intelligence, or any number of emerging technologies.”**

The military, in concert with the Intelligence community, is pouring billions of taxpayer dollars into these technologies to create a human/machine cyborg. The military is staffed by unelected, unaccountable Technocrats who are content to “reimagine” the world in their own circular echo-chamber.

To grasp the full implication of this, read every word of this article by Dr. Robert Malone.? TN Editor

Hiding in plain site on a military website is a 2019 report that was published by the US Army Combat capabilities Development Command Chemical Biological Center.

The abstract of this report lays out it objectives:

CYBORG SOLDIER 2050: HUMAN/MACHINE FUSION AND THE IMPLICATIONS FOR THE FUTURE OF THE DoD

ABSTRACT: The Office of the Under Secretary of Defense for Research and Engineering (Alexandria, VA) established the DOD Biotechnologies for Health and Human Performance Council (BHPC) study group to continually assess research and development in biotechnology...

At the direction of the BHPC Executive Committee, the BHPC study group conducted a year-long assessment entitled “Cyborg Soldier 2050: Human/Machine Fusion and the Impact for the Future of the DOD”.

The primary objective of this effort was to forecast and evaluate the military implications of machines that are physically integrated with the human body to augment and enhance human performance over the next 30 years.

This report summarizes this assessment and findings;

identifies four potential military-use cases for new technologies in this area; and assesses their impact upon the DOD organizational structure, warfighter doctrine and tactics, and interoperability with U.S. allies and civil society.

In another section, the authors of the study go on:

...”our use of the term cyborg is intended to envision a grander and fundamentally more complex future involving human/machine technologies over the next 30 years.

The cyborg technologies assessed in this study go beyond augmentation, which restores function from injury or disease, and are envisioned to enhance performance through a range of modifications from the functional to the radically structural beyond the normal baseline for humans.

One can also assume that aspects of cyborg capabilities will be enabled through the use of genetic engineering, synthetic biology, nanotechnology, artificial intelligence, or any number of emerging technologies...

The primary objectives of this study are to predict the direction cyborg technology will take within the next 30 years, determine how that could fundamentally impact national security, and make recommendations to senior DOD leadership on how to safeguard the United States and mitigate the threat posed by near-peer exploitation of these technologies.

The four examples of human augmentation presented in this study, which the authors feel are most likely to succeed are:

- ocular enhancements to imaging, sight, and situational awareness;
- restoration and programmed muscular control through an optogenetic bodysuit;
- auditory enhancement for communication and protection; and
- direct neural enhancement of the human brain for two-way data transfer.

Of the four examples listed above, I found the “optogenetic bodysuit” to be profoundly disturbing:

Restoration and Programmed Muscular Control through an Optogenetic Bodysuit Sensor Web

Technical Description: *In this scenario, muscle control is enhanced through a network of emplaced subcutaneous sensors that deliver optogenetic stimulation through programmed light pulses.*

This enhancement is best described as an implanted digital sensing and stimulation system that is coupled with external sensors (e.g., boot inserts and wearables), which are linked to a central computational controller.

In effect, the human body would have an array of small optical sensors implanted beneath the skin in the body areas that need to be controlled.

These sensors could be manifested as thin optical threads that are placed at regular intervals over critical muscle and nerve bundles and are linked to a central control area designed to stimulate each node only when the muscles below it are needed. Optical control would occur across the network of optical threads in a programmed manner to effect a fluid muscular action in a choreographed “dance.”

Such a network of implantable muscle sensing, computation, and stimulation provides a closed-loop suite that could be used to decrease injury and mortality rates for soldiers through automated hazard avoidance.

The network would also enhance their physical capabilities on the battlefield.

A “body-suit” sounds like such a nice thing, but this is hardly a “bodysuit. This is a network of subcutaneous (implanted) – fiberoptics, which can control the body. These implanted sensors may be linked to some sort of exoskeleton or not.

What is “field” of Optogenetics:

Medical

Definition

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optogenetics

noun, plural in form

op·to·ge·net·ics (,äp-(,)tō-jə-'net

: the use of genetic engineering activity

specifically : the use of genetic wavelengths of light express indicating neural activity or act pathways

Tactical employment: ...

As the technology develops toward the year 2050, optogenetic body control could help respond to the persistent demand for warfighters to perform increasingly challenging tasks that often push them to the limits of their physical capability. Ongoing efforts to develop warfighter exosystems to reduce energy expenditure have revealed that current technologies often impede operator performance and increase metabolic costs.

An optogenetically controlled body suit could be used to sense an individual's condition and provide a real-time interface between the human and the exosystem.

This human enhancement would allow dynamic adaptive coupling of the human body with an external exosystem, lead to physical behaviors that are more stable and agile, and optimize energy expenditure in operational environments.

Optogenetic musculoskeletal control systems would not only allow warfighters to interface with external systems that are not permanently adhered to their bodies, but could also be programmed to control their bodies to perform complex tasks for which they are not accustomed.

The optogenetic controller would, in effect, take control of the motions of a warfighter's limbs, thereby allowing a novice (i.e., the warfighter) to perform functions professionally.

In reading this, I am struck by the fact having another person or computer control someone else's body sounds an awfully lot like it could be used to force people to do things against their will. Slavery is an ugly word and yet optogenetic body control seems exactly that.

When I think about how we use livestock for ploughing or even riding. Don't we force them to cede control of their bodies by use of technologies such as a harness? How is this different?

A number of concerns and questions immediately arise. Could this technology be used to control prisoners, force recruits into a mercenary army, be used for hazardous exercises, be controlled by a conscious artificial intelligence?

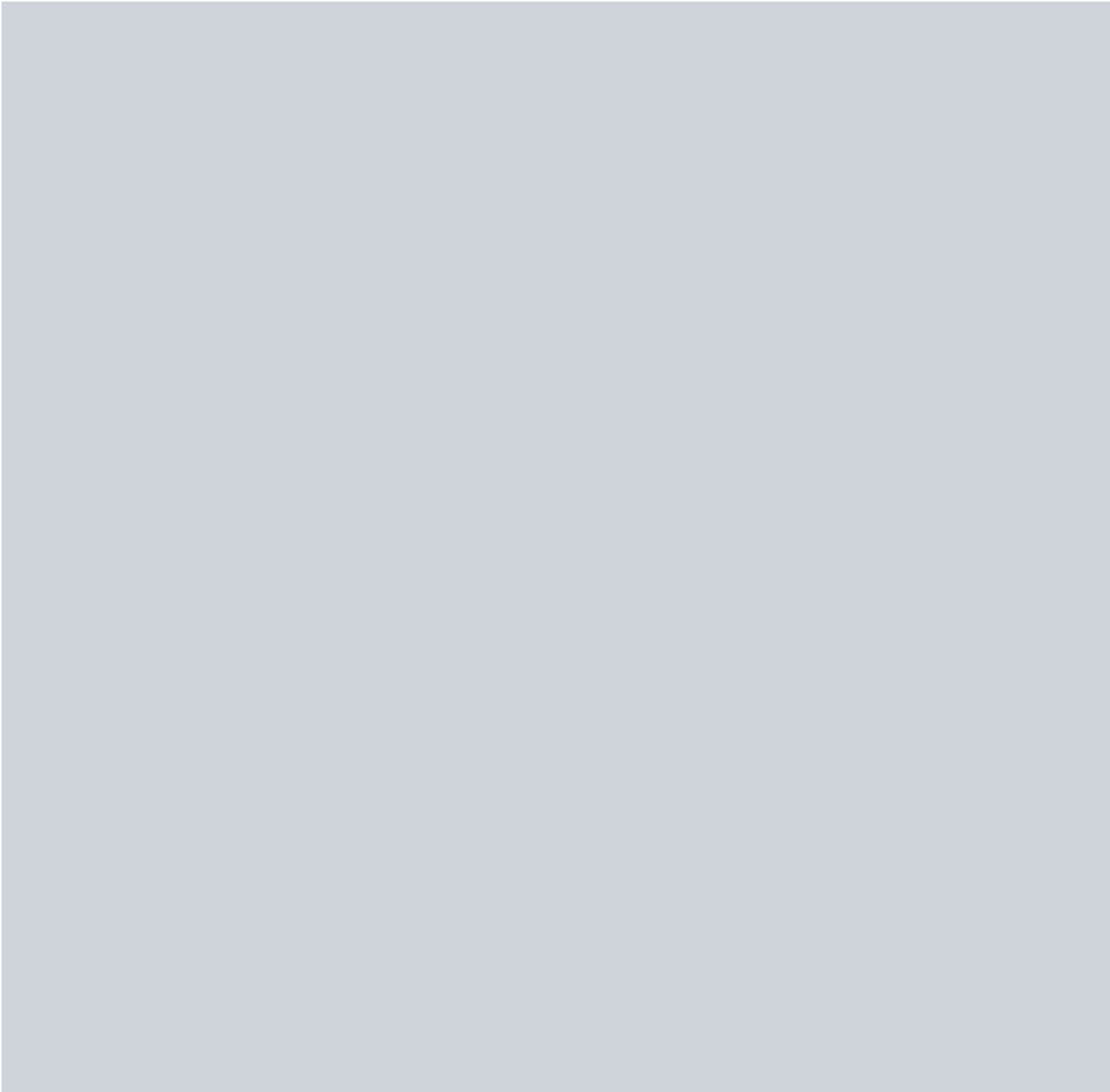
When this technology is taken out of the context of the military and placed into the hands of a dictatorship (or a corporation)?

The authors admit that this is a grave concern and that there is no legal framework to currently address such questions.

Machines respond to commands, and if command and control are hacked, the human/machine will be compromised. Hackability by external forces could generate the fear of control by others. Even if this risk can be mitigated through enhanced encryption methods, variable authentication requirements, or other methods, the perception that control could be subverted may lead to issues of trust among peers.

For example, if a hostile actor could override an optogenetic body suit or neural implant that controls muscle movement, this could not only create a true threat to the individual, organization, and mission, but could promulgate fears among the ranks of non-enhanced and enhanced individuals.

A DoD report, titled "[The Soldier-Cyborg Transformation: A Framework for Analysis of Social and Ethical Issues of Future Warfare](#)" which was written in 1998 shows just how long the military has been working towards a cyborg future.



The public has been asleep. It is time to wake up and take back control of our military, which fully intends that this technology be developed in concert with civilian uses.

Tactical employment: *In this scenario, neural implants for brain–computer interfacing (BCI) would allow for seamless interaction between individuals and secondary assets (machines). This control could be exerted upon drones, weapon systems, and other remote systems operated by an enhanced individual. The enhancement would not simply entail user control of equipment (brain to machine) but also transmission to operator (machine to brain) and human to human (command and control dynamics) to enhance situational awareness as drone, computational analytical, and human information is relayed to the operator....*

Neural enhancement through implantation of modulatory electrodes in the brain will allow for rapid interaction between machine and operator through a read/write type of mechanism. These will enable more rapid and integrated control of multiple assets by the enhanced operator, thus improving battlefield awareness and warfighter lethality.

Brain activity will be monitored noninvasively through electrodes placed upon the scalp or skull or more invasively through the direct implantation of electrodes to the brain surface or deeper structures and networks.

At present, researchers have not been able to determine whether the implantation of electrodes is reversible or to what extent affected neural networks adapt to the presence of an implant, thereby complicating removal.

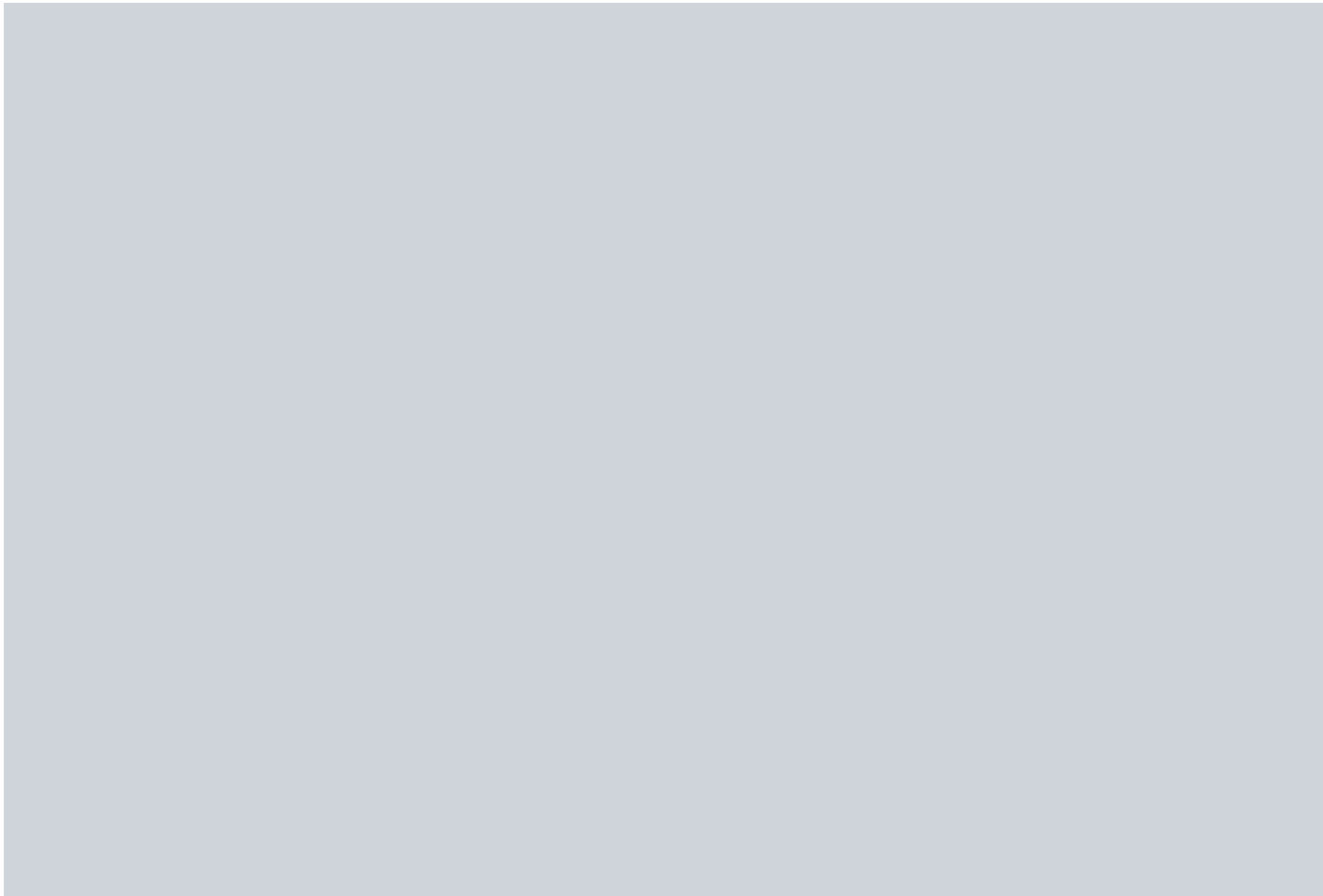
As this technology matures, it is anticipated that specialized operators will be using neural implants for enhanced operation of assets by the year 2030. These operators will include teams from the Special Forces, military pilots, operators of unmanned aerial vehicles (UAVs) or unmanned surface vehicles (USVs) such as drones, and intelligence personnel. The BHPC group predicts that by the year 2050, significant advances will be made in the understanding of the neural network and neural implant technology.

With greater understanding, it is anticipated there will be larger deployment of these technologies to military forces, enabling use-controlled operation of weapon systems, network communication and interaction (e.g., corpsmen speaking with doctors or specialists in hospitals to aid in field treatment of combat injuries), and improved warfighter awareness through machine to brain (and machine-enabled remote brain to brain) communication via the use of distributed sensors, transmitters, and reconnaissance drones.

I have written about [brain computer interfaces previously](#). That these can include both non-invasive as well as invasive interventions opens up a host of questions and concerns. Again, the bioethical issues are vast. Including the ability for someone to lose control of their own mind.

A early case example of how these types of technologies can be weaponized –

The Havanna Syndrome:



The Havanna Syndrome, which is real has created many questions. Just what is it? Who is controlling it? Could this technology be used to disable large groups of people? How does the technology work? Is it even a “real” syndrome? Our CIA, after years of claiming that the Havanna Syndrome was the work of nefarious actors, came out with a highly redacted and mostly classified report, whereby they appear to back off on some of these allegations. But critics posit that this report is nothing more than a smoke screen for whatever is really going on.

Is the Havanna Syndrome an example of an early non-invasive brain-computer interface or weapon?

This technology, particularly without neural implants (through radio waves and pulsed electromagnetic fields), has the capacity to not only act on “volunteers,” but on non-volunteers as well.

Furthermore, if implants are involved – who controls them? The user, the computer or a handler? What happens once someone leaves the military? Can the implants be reprogrammed or hacked? Who owns the data?

The report goes on:

*Improvements in neural implant technology could be significant by the year 2050. Anticipated improvements would focus on reducing the level of invasiveness of the implant itself. **This could be accomplished through location-specific assembly of electrodes using biocompatible nanoparticles that can be directed through an external force (doped iron oxide nanoparticles that can be positioned through the use of directed magnetic fields) or through improvements to the signal acquisition capabilities of externally placed electrodes and processors. The study group expects that warfighter needs will influence these technological advancements; however, such advances would plausibly lead to revolutionary changes in how society interacts with machines on a daily level.** These technologies (personal robots, entertainment options, and vehicles)*

would be driven and sustained by commercial entities.

The Report also discusses the public's acceptance of cyborg technologies and the role of the DoD to overcome the public's fears about these technologies:

The workshop participants unanimously anticipated that state and non-state adversaries will seek to use U.S. deployment of enhanced warfighters to undermine U.S. interests and stigmatize the DOD as unethical.

Given the results of the Pew study, religion seems a likely platform to galvanize these arguments against U.S. interests with entertainment and social media reinforcement.

Mass media, including film and literature, is also a known stage for demonization of cyborgs. From Frankenstein to the Terminator, the message is often that technology's integration with the human body robs the human spirit of its compassion and leads to violence and grave, unintended consequences.

However, fiction can also reflect imaginative applications of emerging technologies as well as real concerns with those technologies. For these reasons, fiction can be a powerful tool for engaging the public in discussions of bioethics. A better-informed public that creates and consumes media related to emerging technologies may thus help DOD and its partners forecast ELSI concerns to mitigate problems early in the development of enhancement-related capabilities.

The study group recommended that efforts should be undertaken to reverse the negative cultural narratives of enhancement technologies and leverage media as a means of engaging the public. Across popular social and open-source media, literature, and film, the use of machines to enhance the physical condition of the human species has received a distorted and dystopian narrative in the name of entertainment. More accurate depiction of technology and its applications in fiction and nonfiction media could lay the groundwork for a new generation that sees opportunity for societal benefits in cyborg technologies.

If technology is to become a more intimate partner in the physical enhancement of the human species, then DOD personnel must help alter distorted cultural narratives. A realistic, balanced (if not more positive) narrative will serve to better educate the public, mitigate societal apprehensions, and remove barriers to productive adoption of these new technologies. Although not intrinsically a DOD mission, defense leadership should understand that if they intend to field these technologies, public and social perceptions will need to be understood and overcome.

I believe that this report suggests that the DoD engage in psy-ops to convince both Americans and people worldwide that these technologies are safe and our future will be better served by advancing them.

This report was published in 2019. The authors are listed on the front cover. I did a little due diligence on these authors and found that [Scott Walper, Science Director, US Office of Naval Research Global, London](#) (second author of this report) has spent this year putting together a “collective” of people to reimagine the world.

The Serendipity Collective is clearly the brain child of the DoD (Navy) and yet that is not exactly crystal

clear on the [website](#)...

WANTED:

**VISIONARY
IDEAS
TO CHANGE
THE WORLD**

The inaugural Serendipity Collective™ is creating a platform where visionaries are not looking to solve the problems of today or tomorrow, but to explore futuristic ideas, agnostic to an application, an opportunity to challenge the status quo—but to transcend the limits of our imagination. This is an event like no other! On 10-11 May 2023, in Berlin, Germany, we will meet the world, providing a collaborative and supportive environment for sharing ideas. The most exotic, transformative aspect of the Serendipity Collective is that it requires no business case, or even a concrete application. It is, in the absolute extreme: “solutions” to problems that have not yet been defined. The platform gives visionaries the opportunity to present their ideas, and the serendipity take them to new heights.

Seems to me that the psy-ops has already begun!

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Category

1. Army-Wars-Conflict Zones-Military Tech.
2. Main
3. Science-Tech-AI-Medical & Gen. Research

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