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## Outside the Wire

### National Defense Spending and Artificial Intelligence

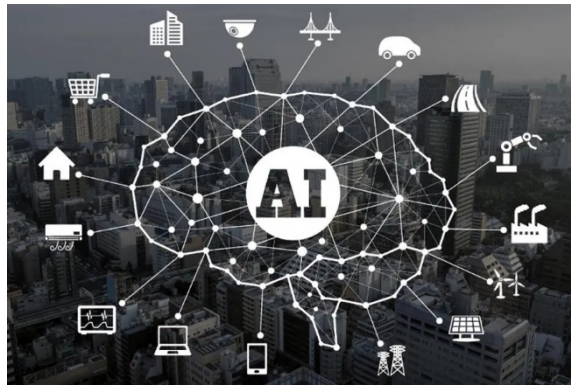


Photo Illustration: SecurityAffairs

Artificial Intelligence (AI) is a branch of computer science that revolves around creating machines and software which can work through problems the same way humans can, i.e. critical thinking and learning through progress. The Department of Defense is investing in AI development more heavily because of the benefits it would have to our national security. All U.S. military branches are preparing for the wars of tomorrow and beyond, which will likely involve the largest use of technology so far.

“Americans have not yet grappled with just how profoundly the artificial intelligence (AI) revolution will impact our economy, national security, and welfare. Much remains to be learned about the power and limits of AI technologies. Nevertheless, big decisions need to be made now to accelerate AI innovation to benefit the United States and to defend against the malign uses of AI.”

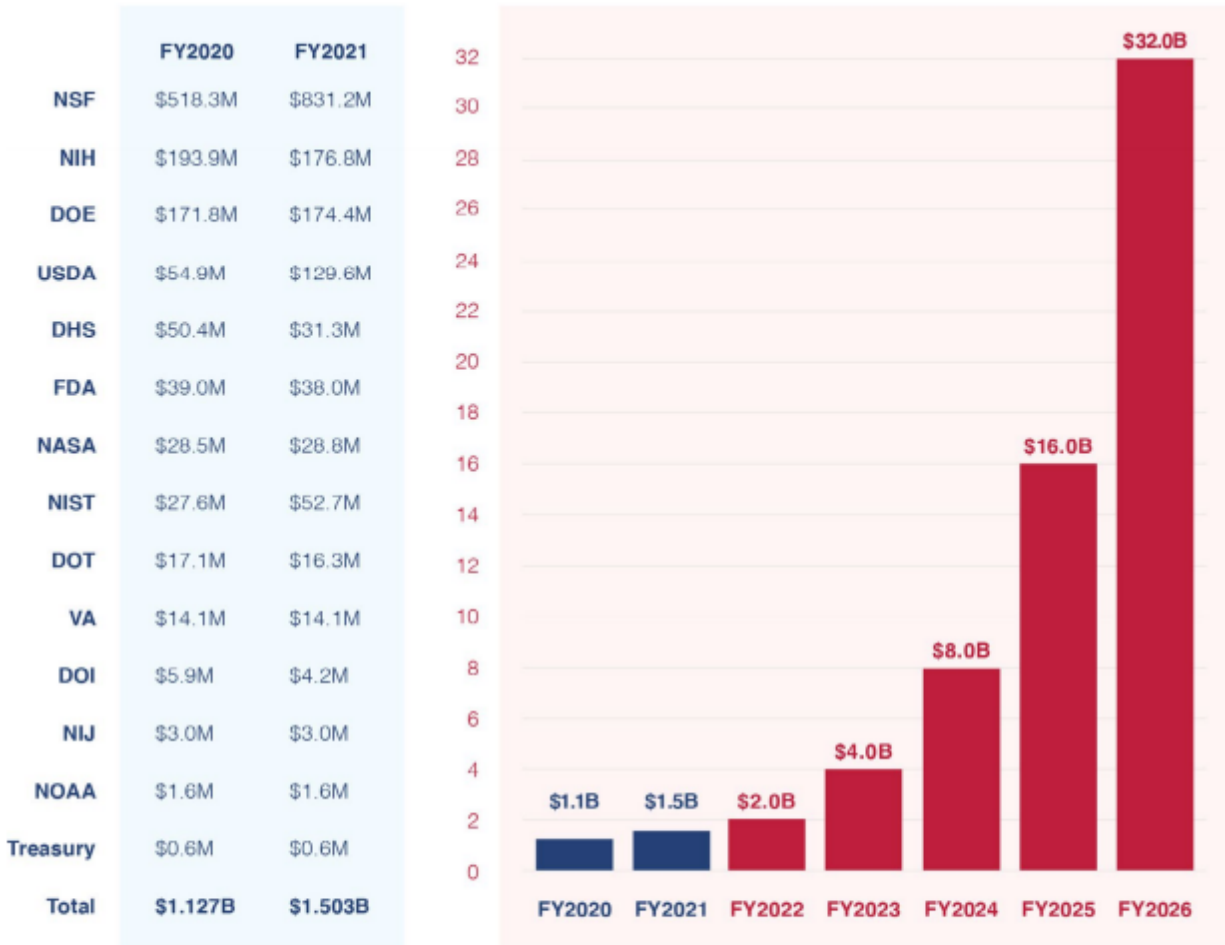
-Eric Schmidt and Robert Work, Chair and Vice Chair of the National Security Commission on Artificial Intelligence

In recent years, China and Russia have placed emphasis on the development of AI technology because its innovation could deliver superiority across all domains related to military power. In this year's 750-page report on AI development from the National Security Commission on Artificial Intelligence (NSCAI), it was stated that China's ambition to become the world leader of AI by 2030 is a threat to U.S. homeland security. President Biden has put emphasis on the need for defensive AI and is taking actions such as signing executive orders for faster development. He additionally assembled a task force assigned to oversee current efforts of AI development.

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The [2021 Final Report](#) from the NSCIA is an important document which states a viable plan for the U.S. to get ahead of its competition for the integration of AI. The commission was established in 2018 with the purpose of making recommendations to the President and Congress for advancing the development of Artificial Intelligence. Recommendations in the report call for the U.S. to increase AI research spending to \$2.0 billion by 2022, and then double that amount every year at least until 2026 (See Figure 1):

Figure 1. Artificial Intelligence Research & Development  
Federal Investment Levels (Projected)



**DHS** - Department of Homeland Security  
**DOE** - Department of Energy  
**DOI** - Department of the Interior  
**DOT** - Department of Transportation  
**FDA** - Food and Drug Administration  
**NASA** - National Aeronautics and Space Administration  
**NIH** - National Institutes of Health  
**NIJ** - National Institute of Justice

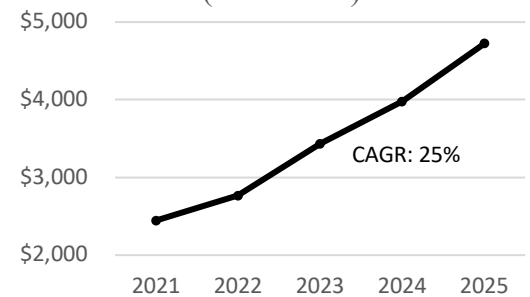
**NIST** - National Institute of Standards and Technology  
**NOAA** - National Oceanic and Atmospheric Administration  
**NSF** - National Science Foundation  
**Treasury** - Treasury/Financial Crimes Enforcement Network  
**USDA** - U.S. Department of Agriculture  
**VA** - Department of Veterans Affairs

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## Increases in AI Spending:

While this is only a recommendation to the President, we can also see from the [2021 National Defense Budget Estimates](#) that this initiative has already begun. Signed under the previous Trump Administration, this year's budget shows there has been growth in funding government contracts dealing with space and defense-wide network research and development. From 2019-2021, we saw a **+10.5%** increase in spending categories related to the development of AI alone (See Figure 2). For the next five years, projected growth for these projects will double at minimum.

Figure 2. Projected Spending on IT Projects & Networks (in millions)



The United States Special Operation's Command (SOCOM) has been the largest purchasing component of the DOD for AI research thus far. In 2018, SOCOM signed a contract with the top AI contractor for the defense sector, Booz Allen Hamilton (NYSE: BAH), worth \$885 million. This contract was made for the purpose of integrating a system called the Enterprise Machine Learning and Persistence Services (eMAPS) and is set to expire in June 2021. Additionally, the Joint Artificial Intelligence Center (JAIC) entered an \$800 million contract last May with the same company for the DOD's "Joint Warfighting" project.

There are dozens of AI development companies currently contracting with the DOD. The larger, more well-known defense contractors such as Lockheed Martin, Boeing, and General Dynamics each have made statements in recent reports about their increased research in AI. With these larger defense companies, the appeal for AI stems from the need for a software program which can run autonomous aircraft, vehicles, and ships. All of which are already being produced by these companies. Once the leap to active AI is made, self-learning capabilities will allow autonomous machines to perform tasks with minimal manual control.

## Conclusion:

Artificial Intelligence will additionally benefit economies outside the defense sector, and almost every country in the world is contributing to its research. Worldwide spending on AI is expected to reach around \$97.9 billion by 2023. In an updated report published this year by PwC Global, AI is expected to increase global GDP by 14%, or roughly \$15.7 trillion by 2030. As this powerful technology could pose a risk to U.S. national security, the DOD and other various government agencies are expected to increase funding for AI research drastically over the next several years.

Office of the Under Secretary of Defense (2020, April 20). *National Defense Budget Estimates for FY 2021*. Comptroller of Defense. Retrieved from [https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/FY21\\_Green\\_Book.pdf46a2903f5f02](https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/FY21_Green_Book.pdf46a2903f5f02)

National Security Commission on Artificial Intelligence (2021, March 03). *Final Report*. Eric Schmidt and Robert Work. Retrieved from [https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/FY21\\_Green\\_Book.pdf#:~:text=Overview-National Defense Budget Estimates for current %28nominal%29 and constant %28real%29 dollar historical data](https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/FY21_Green_Book.pdf#:~:text=Overview-National%20Defense%20Budget%20Estimates%20for%20current%20nominal%20and%20constant%20real%20dollar%20historical%20data)

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