**What is DARPA?**

**DARPA is the Department of Defense's Weapons Research Agency**

DARPA was developed in 1958 by direction of President Dwight D. Eisenhower to conduct research and development of the most strategic systems for the offense and defense of America. The Russian launch of their Sputnik satellite alerted the U.S. for a need to accelerate our military R&D.

Knowing the potential power that DARPA would have, it was Eisenhower who recognized that DARPA had to be a DoD agency and warned about a potential Military Industrial Complex. He did not want that defense contractors to be part of this DoD research organization to avoid conflict of interests that would in the best interests of defense contractors, and not necessarily in our nation's best interests.

DARPA's research has also benefited our civilian sector as their research has resulted in the development of products including the internet, GPS, and email. Thank you DARPA.

It's staffing is composed of world-class scientists and engineers who come from industry, and universities, and federal government laboratories. These technical personnel are rotated every 3-5 years. Program managers are selected who have great technical skills and an entrepreneurial vision. HQ, DARPA is located in Arlington, VA (centered between the Pentagon and the White House).

This list of DARPA projects is quite long. Here are a couple of projects that have piqued my interest.

Fast and maneuverable lightweight drones for our Air Force.

Lightweight combat robots for our Army.

Smart bullets using advanced sensors for snipers to hit specific targets precisely.

Submersible Aircraft - DARPA's Flying Sub for our Navy

The author of this article while serving in the Air Force worked closely with DARPA scientists to assess the threat of enemy weapons which was essential for developing counter-weapons. (Information for this report is sourced from open sources.)

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**Sources:**

[***https://www.google.com/search?q=what%20is%20DARPA***](https://www.google.com/search?q=what%20is%20DARPA)***?***

The Defense Advanced Research Projects Agency is a research and development agency of the United States Department of Defense responsible for the development of emerging technologies for use by the military. [Wikipedia](https://en.wikipedia.org/wiki/DARPA)

[Founder](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=darpa+founder&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM9JSz0620k8qLc7MSy0uhjPi8wtSixJLMvPzrNLyS_NSUosWsfKmJBYVJCpA-QBnlZJqRQAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0Q6BMoADAkegQIPhAC): [Dwight D. Eisenhower](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=Dwight+D.+Eisenhower&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM1KCsCyKsrXUs5Ot9JNKizPzUouL4Yz4_ILUosSSzPw8q7T80ryU1KJFrCIu5ZnpGSUKLnoKrpnFqXkZ-eWpRTtYGQE5jV_7WQAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0QmxMoATAkegQIPhAD)

[Founded](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=darpa+founded&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM9JSzU620s8vSk_My6xKLMnMz0PhWKXll-alpKYsYuVNSSwqSFSA8gHlK3xuQwAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0Q6BMoADAlegQIRBAC): February 7, 1958

[Headquarters](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=darpa+headquarters&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM9LSyk620s8vSk_My6xKLMnMz0PhWGWkJqYUliYWlaQWFS9iFUpJLCpIVEAWBAAVi4VmTQAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0Q6BMoADAmegQIOxAC): [Arlington County, VA](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=Arlington+County&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM1ICs3ILkiq0tLKTrfTzi9IT8zKrEksy8_NQOFYZqYkphaWJRSWpRcWLWAUci3Iy89JL8vMUnPNL80oqd7AyAgAAf3jpWAAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0QmxMoATAmegQIOxAD)

[Directors](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=darpa+directors&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM9JSzSi30k_Oz8lJTS7JzM_Tzy9KT8zLrEoEcYqtUjKLgOL5RYtY-VMSiwoSFWACxQBp-4UIRQAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0Q6BMoADAnegQILxAC): [Steven H. Walker](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=Steven+H.+Walker&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM1Li1U_XNzRMM84qL7A0TNZSzSi30k_Oz8lJTS7JzM_Tzy9KT8zLrEoEcYqtUjKLgOL5RYtYBYJLUstS8xQ89BTCE3OyU4t2sDICACuznJtYAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0QmxMoATAnegQILxAD), [Victoria Coleman](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=Victoria+Coleman&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM1Li1U_XNzTMSK6MLzRKTtNSzSi30k_Oz8lJTS7JzM_Tzy9KT8zLrEoEcYqtUjKLgOL5RYtYBcIyQYzMRAXn_JzU3MS8HayMAHuOsv1YAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0QmxMoAjAnegQILxAE)

[Subsidiaries](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=darpa+subsidiaries&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM9LSzCi30k_Oz8lJTS7JzM_Tzy9KT8zLrEoEcYqtikuTijNTMhOLMlOLF7EKpSQWFSQqIAsCAPnTToJMAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0Q6BMoADAoegQIMBAC): [Microsystems Technology Office](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=Microsystems+Technology+Office&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM1LiArGy4i0McnK0NDPKrfST83NyUpNLMvPz9POL0hPzMqsSQZxiq-LSpOLMlMzEoszU4kWscr6ZyUX5xZXFJam5xQohqckZefk5-emVCv5paZnJqTtYGQHDRMCCZwAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0QmxMoATAoegQIMBAD), [MORE](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=darpa+subsidiaries&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM9LSzCi30k_Oz8lJTS7JzM_Tzy9KT8zLrEoEcYqtikuTijNTMhOLMlOLF7EKpSQWFSQqIAsCAPnTToJMAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0Q44YBKAIwKHoECDAQBA)

[Parent organization](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=darpa+parent+organization&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM9IyyCi30k_Oz8lJTS7JzM_Tzy9KT8zLrEoEcYqtChKLUvNKFJAFF7FKpiQWFSQqYJEDALt_P69aAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0Q6BMoADApegQIOhAC): [United States Department of Defense](https://www.google.com/search?sxsrf=ALeKk00qticLLbbBYHpU1zbrNq_0ZKjiqQ:1617896040492&q=United+States+Department+of+Defense&stick=H4sIAAAAAAAAAOPgE-LQz9U3MEovM1ICs8wrDfK0DDLKrfST83NyUpNLMvPz9POL0hPzMqsSQZxiq4LEotS8EgVkwUWsyqF5mSWpKQrBJYklqcUKLqlAVSW5YHVpQF5aal5x6g5WRgB-BejzcQAAAA&sa=X&ved=2ahUKEwixmJu2_O7vAhV7HzQIHRpnCE0QmxMoATApegQIOhAD)

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<https://www.google.com/search?q=what%20is%20DARPA>?

Here's a listing of the DARPA-related projects presented on the Technovelgy site:

 Fast Lightweight Autonomy Indoor Drones For DARPA. ...

 DARPA Video Highlights Fast Lightweight Autonomy Drones. ...

 DARPA M3 Soft Camo Robots. ...

 EXACTO Smart Bullet From DARPA. ...

 'Cortical Modem' Latest On DARPA's Wishlist. ...

DARPA Project List (Defense Advanced Research Projects Agency)

DARPA (Defense Advanced Research Projects Agency) was established 1958 in response to the Soviet launch of Sputnik. DARPA reports directly to the Secretary of Defense; however, it operates independently of the rest of military research and development. Its basic principles are:

 Small and flexible, with a flat organization structure

 Autonomous organization

 World-class scientists and engineers work with representatives from industry, universities and government labs

 Project-based style; technical staff rotated every 3-5 years

 Program managers are selected to be technically outstanding and entrepreneurial.

Here's a listing of the DARPA-related projects presented on the Technovelgy site:

 Fast Lightweight Autonomy Indoor Drones For DARPA

 The program intends to develop novel representations and algorithms to enable small air platforms to fly fast.

 DARPA Video Highlights Fast Lightweight Autonomy Drones

 DARPA has released a video showing would-be contractors exactly what they want from their Fast Lightweight Autonomy drones.

 DARPA M3 Soft Camo Robots

 Take a look at the following video, which shows a soft robot going for a walk on rocks.

 EXACTO Smart Bullet From DARPA

 The Extreme Accuracy Tasked Ordnance (EXACTO) system seeks to improve sniper effectiveness.

 'Cortical Modem' Latest On DARPA's Wishlist

 A direct neural interface that will allow for the visual display of information without the use of glasses or goggles.

 DARPA's Warrior Web

 A kind of undersuit that significantly boosts endurance, carrying capacity and overall warfighter effectiveness.

 DARPA LS3 Robot Pack Animal Video

 Take a look at the Legged Squad Support System (LS3) robot pack animal from Boston Dynamics.

 DARPA Wants Airborne Launch Facility For Drones

 An airborne "aircraft carrier" for launching and retrieving drone aircraft.

 DARPA Seeks Science-Fictional Materials

 Materials with Controlled Microstructural Architecture (MCMA) program is seeking ways to control and engineer materials at a fundamental level.

 DARPA's Upward Falling Payload Like Leinster's Wabbler

 Developing deployable, unmanned, distributed systems that lie on the deep-ocean floor in special containers for years at a time.

 EXACTO Bullets Change Course In Mid-Air

 Intended to greatly improve rifle accuracy and range by using what amounts to a guided bullet.

 Neuromorphic Brain-Chip Takes Flight

 Chips that could make sense of video and sensor data from planes and drones right on board.

 Pet-Proto Robot Video Stops Bad Terminator Dreams

 In this video, Pet-Proto, a predecessor to DARPA's Atlas robot, is confronted with obstacles similar to those robots might face in the DARPA Robotics Challenge.

 Neural Implant To Treat Memory Loss

 An implantable neural device with the ability to record and stimulate neurons within the brain to help restore memory.

 Remote Control Of Brain Activity

 A prototype device that does not require surgery has been created that allows for remote control of brain activity.

 'Air Hopper' Robot Grasshopper

 The intent is to create a robot that is able to handle difficult, uneven terrain with some measure of robotic aplomb.

 DARPA Avatar Program Coming, But Will Soldiers Want To?

 How much of your tax money would you spend on a program to recreate Avatar, a movie in which a human is "uploaded" to a robot?

 DARPA Shredder Challenge Won!

 Is it possible to reconstitute shredded documents?

 DARPA's 'Biometrics-At-A-Distance' Knows You By Heart

 Demonstrate the ability to collect, localize, and evaluate physiological signals (e.g., heart rate) at distances greater than 10 meters.

 Warrior Web: Superman Underwear From DARPA

 DARPA is looking for a wearable suit that can help protect warfighters.

 ACTUV Game From DARPA Seeks Ender Wiggin

 Robust Automatic Translation Of Speech DARPA's Universal Translator

 Bring together its diverse speech translation efforts into an all-in-one package.

 DARPA Cyborg Insects With Nuclear-Powered Transponders

 The goal of the radioisotope transmitter work is to power the insects that the group is developing for DARPA.

 Smart Video Cams - DARPA's Mind's Eye

 A smart camera, with sufficient visual intelligence that it can report on activity in an area of observation.

 Dynamically forecast when deadly moles deep within government departments will likely strike.

 Pharmed Blood Is DARPA's Tru Blood

 Mass-produced synthetic blood for transfusions

 Cyborg Insect Comm System Planned By DARPA

 Now being designed to communicate with each other by modulating their usual calls.

 DARPA's Restorative Injury Repair Dream

 They'd like to see a device that can repair skin - as well as nerves and bones.

 Fracture Putty For Compound Fractures

 Fracture Putty could rapidly restore a patient to ambulatory function while normal healing ensues, with dramatically reduced rehabilitation time.

 'Iron Curtain' Active Protection System

 When activated by an approaching projectile, the Iron Curtain takes it out. Remarkable DARPA video below.

 iRobot's ChemBot Blob: JSEL Takes Baby Steps

 A robot based on jamming skin-enabled locomotion (JSEL).

 Harvesting Power From Flying Insects

 The first successful mechanical energy scavenging from flying insects.

 Stealthy, Persistent Perch and Stare UAVs

 The intent is to develop the company's one-pound, 29-inch wingspan battery-powered Wasp unmanned system.

 InfoChemistry And Self-Folding Origami

 These machines use cutting-edge mathematical theorems to fold themselves into virtually any three-dimensional object.

 Legged Squad Support System Monster BigDog Robot

 DARPA wants a new "robotic mule" to carry gear for soldiers in the field.

 Handheld Fusion Reactors Planned

 Furthermore, DARPA thermal isolation techniques will enable high efficiency beam to power converters, perhaps making chipscale self-sustained fusion possible.

 Silent Talk 'Telepathy' For Soldiers

 '...allow user-to-user communication on the battlefield without the use of vocalized speech through analysis of neural signals.'

 TASC - DARPA's Psychohistory

 The agency is seeking whitepapers to fuel the development of a scientific approach to predicting the actions of large masses of people.

 Guided Bullets By Exacto From DARPA

 How is it possible that a bullet could redirect its own course in mid-flight?

 DARPA Seeks Self-Repairing Hunter-Killers?

 Tests to date have seen small aerial robots lose large chunks of themselves to hostile fire, yet carry on with their mission.

 DARPA Gandalf Project And Philip K. Dick

 A new defense department project to locate enemies precisely, and target them, by phone.

 EATR - DARPA's Energetically Autonomous Tactical Robot

 Project to develop a robotic platform able to perform long missions while refueling itself by foraging.

 Harnessing Infrastructure for Building Reconnaissance (HIBR).

 Squishy SquishBot ChemBots Desired By DARPA

 ChemBots are soft, flexible robots that are able to alter their shape to squeeze through small openings and then regain their full size.

 Fracture Putty For Compound Fractures - DARPA

 An alternative to today's standard treatments, which often lead to further complications, and are not fully load-bearing,

 Submersible Aircraft - DARPA's Flying Sub?

 The minimal required airborne tactical radius of the sub-plane is 1000 nautical miles (nm).

 MAHEM Metal Jets Like Clarke's Stiletto Beam

 Create compressed magnetic flux generator (CMFG)-driven magneto hydrodynamically formed metal jets and self-forging penetrators (SFP).

 Precision Urban Hopper Robot Must 'Stick' Landings

 Intended to give wheeled robots an additional edge; the ability to jump up onto or over obstacles up to nine meters high.

 Katana Mono-Wing Rotorcraft Nano Air Vehicle

 The Katana Mono-Wing Rotorcraft is a coin-sized one-bladed helicopter.

 Micro Imagers For Sensing On Nano Air Vehicles

 With the impetus toward micro-air and -ground vehicles for military applications, there is a compelling need for imaging micro-sensors compatible with these small platforms.

 RESURRECT High-Fidelity Computer Battlefield Simulations

 Create high-fidelity computer simulations of in-theatre events for tactical, operational and strategic review

 Aqua Sciences Water From Atmospheric Moisture

 The program focused on creating water from the atmosphere using low-energy systems.

 Shape-Shifting Bomber In Need Of Plowsharing

 Shape-shifting supersonic bomber fans are feeling bereft this weekend.

 Automated Mammalian Training Devices

 The development of an automated mammalian training device would significantly reduce the need for human involvement.

 RISE Robot: Six-Legged BIODYNOTICS Runaway

 These Robots In Sensorial Environments are being developed by researchers from Carnegie Mellon.

 DARPA Vulture Five Year Flying Wing

 Vulture is intended to fly for periods of up to five years unattended at 65,000 feet.

 LSTAT-lite Life Support For Trauma and Transport-lite Demoed

 LSTAT has been around since 1999; however, the LSTAT-lite is considerably lighter and more affordable.

 LANdroid WiFi Robots

 DARPA is soliciting proposals for intelligent autonomous radio relay nodes.

 HI-MEMS: Control Circuits Embedded In Pupal Stage Successfully

 Researchers have succeeded in implanting electronic circuit probes into tobacco hornworms as early pupae.

 HI-MEMS: Cyborg Beetle Microsystem

 The University of Michigan team has successfully created a cyborg unicorn beetle microsystem.

 Carnegie Mellon's Boss, an autonomous Chevy Tahoe, was declared the winner.

 The teams will attempt to complete a complex 60-mile urban course with live traffic in less than six hours. Now, the videos.

 DARPA Wants Exoskeletons

 DARPA thinkers are saying that maybe humans themselves need an upgrade.

 DARPA Urban Challenge For Autonomous Vehicles

 Urban Challenge consists four sets of vehicle behavior requirements.

 IR Chemical Communication Graffiti Tags Wanted By DARPA

 The Chemical Communications (ChemComm) program objective is to encode and transmit information in a rapid and covert manner.

 Hybrid Insect MEMS Sought By DARPA For Bug Army

 HI-MEM-based bug armies? Our friends at DARPA seem to have cyborgs on the brain.

 DARPA's 'BigDog' Robot Now In Puppy Stage

 Project seeks to create algorithms that help multi-legged platforms learn to walk in varied terrain.

 DARPA Urban Challenge - KITT, Put Up Or Shut Up

 Autonomous ground vehicles will take to a mocked-up urban area to negotiate a 60-mile course.

 Star Wars Binoculars A Cognitive Technology Threat Warning

 They've dubbed the device "Luke's Binoculars," after the device used by Luke Skywalker in the original Star Wars movie.

 DARPA Radar Scope Can Sense Thru Walls

 Handheld radar scope can provide troops with an ability that was formerly the province of science fictional superheroes alone.

 BigDog Quadruped Robot Update

 Good progress on Ray Bradbury's mechanical hound from Fahrenheit 451.

 DARPA Wants Exoskeletons

 In a briefing today on GovExec.com, a variety of projects from DARPA (Defense Advanced Research Projects Agency) demonstrate that some science fiction thinking is good.

 Shark Cyborgs On DARPA Remote control

 In those Jaws movies, the shark seemed like it was out to get you. DARPA makes this dream come true.

 Bradbury's Mechanical Hound and DARPA's BigDog Robot

 In his chilling 1953 novel Fahrenheit 451, Ray Bradbury created the mechanical hound, a robot that accompanied the firemen and helped with their work... DARPA has made a multi-million dollar investment in the soldier of the future's best friend - BigDog.

 DARPA Seeks Metabolic Dominance

 DARPA has initiated a new program called "Metabolic Dominance" to assure that soldiers have superior physiological qualities. Frank Herbert had the answer sooner, though.

 DARPA's Walrus and Griffith's War-Balloons

 Not your great-grandfather's airship, the Walrus will be able to lift a fighting force.

 DARPA's Radiation Decontamination (And 'Doc' Smith's Dekon)

 DARPA and a host of scientists are working on decontamination techniques for dirty bombs.

 Obtaining Unobtainium at DARPAtech 2004

 DARPA searches for impossible materials - unobtainium - and is succeeding.

 Springtail EFV-4B Personal Air Vehicle From Trek Aerospace

 The Springtail EFV-4B Personal Air Vehicle (PAV) is a fourth-generation vertical take-off and landing (VTOL) craft powered by a single engine.

 Trauma Pod Battlefield Medical Treatment System

 DARPA has awarded a $12 million contract to develop an automated medical treatment system that can recieve, assess and stabilize wounded soldiers immediately following injury. The trauma pod is used to treat soldiers on the battlefield using advanced

 Cormorant Submarine/Sea Launched MPUAV

 The Cormorant submarine and sea launched vehicle concept may remind you of science fiction glories past.

 Terminator Tether - EDT Solution To Space Debris Update

 Studies have shown that low Earth orbit is not a limitless resource and should be managed more carefully. Some sort of debris-mitigation measures are needed to solve the problem of old, unusable satellites and space junk.

 HELLADS: Lightweight Laser Cannon

 Ultra-light High Energy Liquid Lasers are coming.

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