DARPA: Creating Breakthrough Technologies for National Security

For nearly 60 years, the Defense Advanced Research Projects Agency (DARPA) has had a singular mission: to make pivotal investments in breakthrough technologies for national security. Through its investments, DARPA catalyzes the development of new capabilities that give the Nation technology-based options for preventing—and creating—strategic surprise.

Established in 1958 as part of the U.S. Department of Defense, DARPA is designed to pursue opportunities for transformational change rather than incremental advances. It does so collaboratively as part of a robust innovation ecosystem that includes academic, corporate, and governmental partners. And while its focus is always on the Nation's military Services, which count on DARPA to create new strategic and tactical options, DARPA's work has historically catalyzed fundamental breakthroughs that have benefited broader society as well.

DARPA has demonstrated time and again how thinking beyond the borders of what is widely considered possible can yield extraordinary results. In the military domain, DARPA made early and timely investments in ballistic missile defense, stealth aircraft technology, unmanned aerial vehicles, and precision guidance. It also played a significant role in developing the Internet; designing the electronics that undergird the information revolution, and making the global positioning system (GPS) as mobile and ubiquitous as it is today. From the enormous rocket engines that powered the first manned space flights to the smallest microelectronics in smartphones at home and on the battlefield, DARPA has been at the forefront of technological innovation.

By focusing its efforts at the boundaries of knowledge and at the edges and intersections of disciplines, DARPA has also helped create new communities of scientists and engineers, both inside and beyond the traditional defense community. Along the way, companies and sometimes entire industries have sprung from DARPA-funded research—reflecting the Agency's commitment to pursue its ideas all the way from initial concept to demonstration of practical feasibility through prototype development.

DARPA programs are led by program managers who come from academia, industry, national laboratories and other parts of government for stints that typically last just a few years—a time limit that helps drive the Agency's signature sense of urgency. They are supported by technical and administrative teams motivated by the DARPA tenet that a program is not successful until it has made a difference for national security. Toward that end, and recognizing that some revolutionary goals inevitably prove unachievable, programs are heavily milestone-driven and redirected or discontinued when barriers prove intractable.

DARPA's programs are conducted under the oversight of six technical offices: the Biological Technologies Office (BTO), the Defense Sciences Office (DSO), the Information Innovation Office (I2O), the Microsystems Technology Office (MTO), the Strategic Technology Office (STO), and the Tactical Technology Office (TTO).

DARPA's FY 2017 budget is $2.89 billion. The Agency supports approximately 210 government employees, about half of whom are program managers. Its research is conducted by a wide array of public- and private-sector performers via 2,000 contracts, grants and other agreements.

DARPA's mission is to make the pivotal early technology investments that create or prevent strategic surprise for U.S. national security