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Maximum Mobility and Manipulation (M3) (Archived)

Robots hold great promise for amplifying human effectiveness in Defense operations. Compared to human beings and animals, however, the mobility and manipulation capability of present day robots is poor. In addition, design and manufacturing of current robotic systems are time consuming, and fabrication costs remain high. If these limitations were overcome, robots could assist in the execution of military operations far more effectively across a far greater range of missions.

The Maximum Mobility and Manipulation (M3) program is striving to create and demonstrate significant scientific and engineering advances in robotics that will:

- Create a significantly improved scientific framework for the rapid design and fabrication of robot systems and greatly enhance robot mobility and manipulation in natural environments.
- Significantly improve robot capabilities through fundamentally new approaches to the engineering of better design tools, fabrication methods, and control algorithms. The M3 program covers scientific advancement across four tracks: design tools, fabrication methodologies, control methods, and technology demonstration prototypes.

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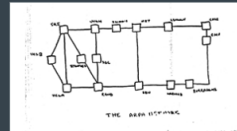
DARPA's Stealth Revolution

In the early days of DARPA's work on stealth technology, Have Blue, a prototype of what would become the F-117A, first flew successfully in 1977. The success of the F-117A program marked the beginning of the stealth revolution, which has had enormous benefits for national security.



Navigation in the Palm of Your Hand

Early GPS receivers were bulky, heavy devices. In 1983, DARPA set out to miniaturize them, leading to a much broader adoption of GPS capability.



Paving the Way to the Modern Internet

ARPA research played a central role in launching the Information Revolution. The agency developed and furthered much of the conceptual basis for the ARPANET—prototypical communications network launched nearly half a century ago—and invented the digital protocols that gave birth to the Internet.

COVID-19 GUIDANCE USD(R&E)

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