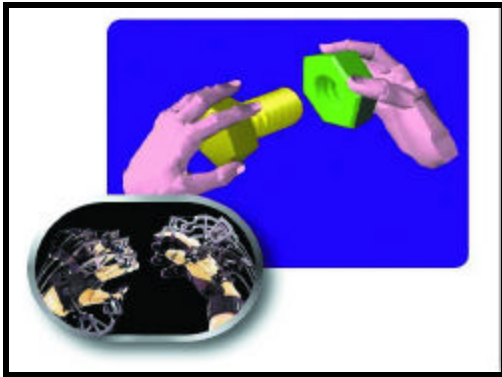


NAVY TOPICS: N96-T003 (ONR)



Grasp & arm force feedback system

**CyberGrasp™ was  
named a 1998  
Innovation of the Year  
by *Computer Graphics  
World* magazine and a  
finalist for *Discover  
Magazine's* prestigious  
1998 Discover Award.**

**STTR Investment: \$400K**

**Project Revenues: \$1.5M**

**Projected Annual  
Revenues: \$10M**

## Virtualy Hands-On



CyberGrasp™, a grasp and arm force feedback system, is a versatile and intuitive human-computer interface for use in 3D computer simulations and telerobotic applications. CyberGrasp™, developed by Virtual Technologies, Inc., can accurately measure the hand's position and exert individually programmable forces at the fingertips. Operators can "feel" telemanipulated objects as if they were manipulating real ones and can experience realistic force feedback through the most natural interface possible—the human hand. Although the company has still not completed the STTR contract, VTI has already sold 40 units. CyberGrasp™ promises to revolutionize the way humans interact with simulated 3D environments.

### Now Used By

- U.S. Army (Threat Simulation Management Organization and TACOM)
- Air Force Human Effectiveness Directorate
- NASA (Ames, Johnson and Langley for training astronauts)
- NIST, Manufacturing Systems Division
- Lockheed Martin and Funuc Corporation, and Weizzman Institute of Science
- Stanford University, University of Pennsylvania, Washington State University and University of Osaka (Japan)

### Benefits & Applications

- A whole-hand input device for use in simulation & training, telerobotics, mechanical CAD, and virtual reality applications
- Provides reduced training times, better dexterity, and enhanced safety
- Telerobotic applications such as underwater salvage operations, hazardous waste removal, oceanographic exploration, and telesurgery
- Allows computer-aided design (CAD) users to test and evaluate digital models for functionality, assembly/disassembly, and ergonomics, saving millions in product development costs

## Virtual Technologies, Inc. (VTI)

Virtual Technologies, Inc., a Silicon Valley start-up founded in 1995, is a world leader in body-sensing and haptic feedback. The company just released VirtualHand Suite 2000, which allows for easy integration of CyberGrasp™ into third party applications. For more information about Virtual Technologies, contact the company's sales department via e-mail at [sales@virtex.com](mailto:sales@virtex.com), or by phone at (650) 321-4900 ext. 545 or visit the website at [www.virtex.com](http://www.virtex.com).