



# Army-NASA Visual Innovations Laboratory

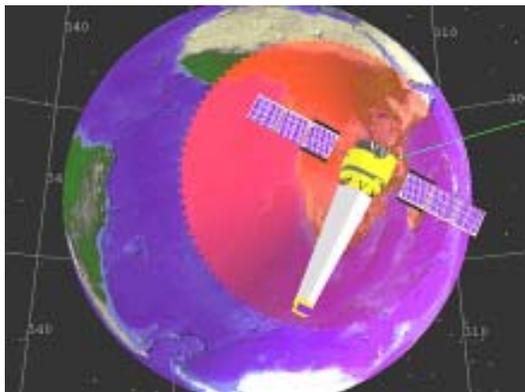
## **Purpose:**

The Army-NASA Virtual Innovations Laboratory (ANVIL) applies virtual reality (VR) software and peripherals for space hardware systems analysis, modeling and simulation, and for developing training applications.

In addition to serving as a research and development facility, ANVIL has entered the VR applications arena by using VR in design visualization and analysis. VR provides an impressive human interface to complex situations by adding a dimension to the perceptual tools of the analyst. By allowing evaluators to interact with a design concept and with each other in novel ways, VR provides a unique capability to visualize design features.

There are three systems engineering support areas of specialization in the lab: human modeling, systems analysis, and systems modeling and simulation. A variety of projects are underway, including dynamic work envelope analysis, virtual environments user interface standards development, haptic interface design development, kinematics analysis, radio frequency system level communication coverage and analysis, and electrical power analysis and energy management reports.

Using the advanced engineering design and analysis tools and methods available in ANVIL, engineers can tease out and integrate design requirements information, formulate scenarios for operations concepts, integrate knowledge, procedures, and data to drive simulations and produce analyses of mission concepts and improved resource and service utilization, and evaluate human to hardware interfaces.



ANVIL collaborates with academic, commercial, and intergovernmental organizations to encourage continued innovation in VR research, development, and applications.



## **POINT-OF-CONTACT:**

George Hamilton / ED42  
(256) 544-4963  
george.hamilton@msfc.nasa.gov