

## Warfighter Interface Division

The role of the Warfighter Interface Division (RHC) is to match equipment to human operators and their mission. This involves anticipating future warfighting needs, developing human-centered technologies, and providing human factors design criteria for the development of the human-to-machine interface.

The results of this research are reflected in equipment that exploit the full potential of the warfighting team whether on the ground or in the air.

## Cognitive Systems Branch (RHCS)

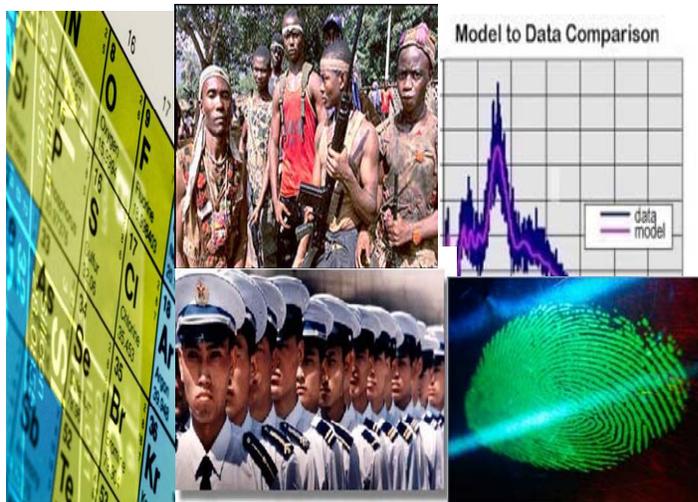
The mission of the Cognitive Systems Branch (RHCS) is to research and develop computational and knowledge-based representations of human, organizational, cultural, and societal structures and behavior to assess cascading effects of military operations, and to develop work-centered decision-making support systems that complement and augment natural human perceptual and cognitive mechanisms.



## Current RHCS research areas

**Cascading Effects Modeling.** The objective of the Cascading Effects Modeling program is to conduct leading edge research, development, and objective evaluation of computational models of human, organizational, cultural and societal behavior at various scales and time frames to

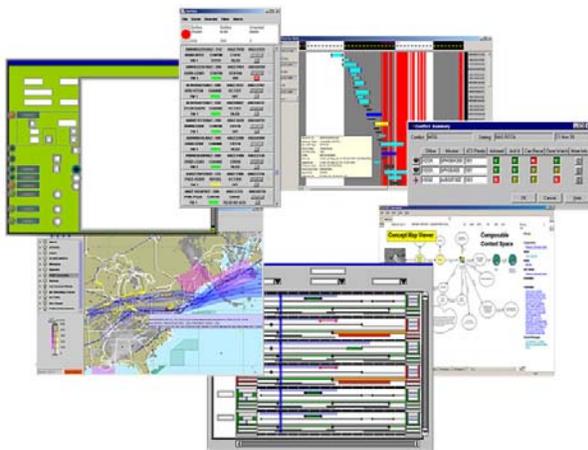
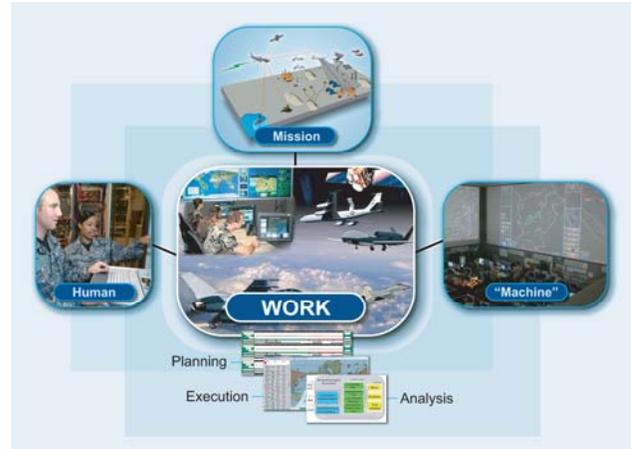
assess both primary and (secondary) cascading effects and unintended consequences of US and coalition operations across the full spectrum of conflict. RHCS scientists are engaged in basic research investigating the influence of culture (to include religion) on cognition and behavior; exploratory development research creating cultural research tools; and advanced development research creating tools, techniques, and methods to enable high fidelity predictive modeling of individuals, groups, organizations, and societies. The overall goal of the program is to lay the scientific foundation for



understanding and characterizing adversary proclivities based on all relevant scientific disciplines, and to provide warfighters the decision-aids, models, and simulations they need for Effects-Based Operations planning and execution.

**Work-Centered Decision-Support.** The objective of the work-centered decision support research area is to enable net-centric warfare by revolutionizing the design of decision support systems and the human-computer interface.

RHCS is developing new design and decision support methods that maximize individuals and team efficiency by providing complete support for work as practiced. These methods produce designs that provide intuitive rapidly actionable displays, explicit support for routine and emergent work, and automatic monitoring, retrieval, and fusion of information. Combined, these joint aiding forms enable the operator to remain focused on core work activities, as well as reducing errors and time to complete tasks. In addition, RHCS personnel are investigating the development of design patterns to improve the design of the human computer interface. A design pattern is a structured textual and graphical description of a proven solution to a recurring design problem; RHCS scientists are working with other joint service scientists to develop a library of proven designs for military activities and tasks. The goal is to embody these proven designs in a software library.



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