



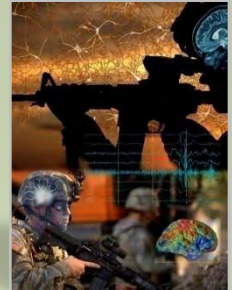
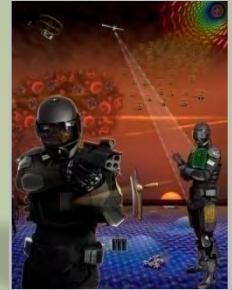
Army Science & Technology

Harnessing Disruptive S&T for the Soldier

1 Dec 2008



***Quantum Information Science
Immersive Technology
Autonomous Systems
Network Science
Nanotechnology
Biotechnology
Neuroscience***



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Chief Scientist***

Report Documentation Page

*Form Approved
OMB No. 0704-0188*

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1. REPORT DATE DEC 2008	2. REPORT TYPE N/A	3. DATES COVERED -	
4. TITLE AND SUBTITLE Harnessing Disruptive S&T for the Soldier		5a. CONTRACT NUMBER	
		5b. GRANT NUMBER	
		5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)		5d. PROJECT NUMBER	
		5e. TASK NUMBER	
		5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Army Science & Technology		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)	
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited			
13. SUPPLEMENTARY NOTES See also ADM002187. Proceedings of the Army Science Conference (26th) Held in Orlando, Florida on 1-4 December 2008, The original document contains color images.			
14. ABSTRACT			
15. SUBJECT TERMS			
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	UU
			18. NUMBER OF PAGES 10
			19a. NAME OF RESPONSIBLE PERSON



Strategy—what is Army S&T working to achieve

Fostering innovation and accelerating/maturing technology to enable Future Force capabilities while exploiting opportunities to rapidly transition technology to the Current Force

Current Force



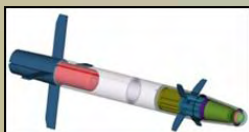
Modular Protective Systems



Micro Air Vehicle



IED/Mine Detection Ground Penetrating Radar



120mm Mid-Range Munition

Enabling the Future Force

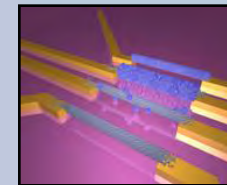


Enhancing the Current Force

Future Force



Immersive Training



Virus-based Self-Assembling Electrodes



Flexible Displays



Armor Kit



Mounted Combat System (MCS)



Aligning Investments with Army Needs—meeting Demands of the 21st Century

Current Force Enhancements

Technical Threat Characterization
Enhanced Performance Armor Development
Analysis-Driven Armor Designs

MRAP Armor

Spring 2008



IMG after OEM engineering changes

Fall 2007

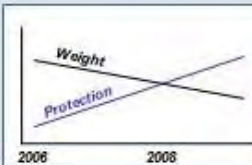


IMG production with MRAP Expedient Armor

Spring 2007



Improved Frag-Kit 6 HMMWV add-on kits to OIF



Improved First Aid Kit



Apache Upgrades

Engine Improvements from IHPTET

Super Lightweight Insulation for IR Signature Reduction

Longbow Fire Control Radar and Missile System

Gearbox Improvements

Cognitive Decision Aiding

Level 4 UAV control

Manned/Unmanned Common Architecture

30MM Side Loader

Adaptive Landing Gear



The Four Elements of Army Modernization

The Army's Centerpiece



Incorporating New Technologies from FCS

NLOS-LS



Missile Seeker, Guidance and Control

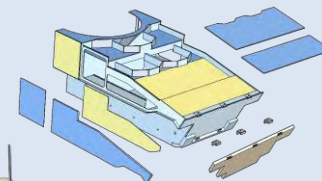


KE Active Protection



Lethality and Protection for FCS

Passive Armor

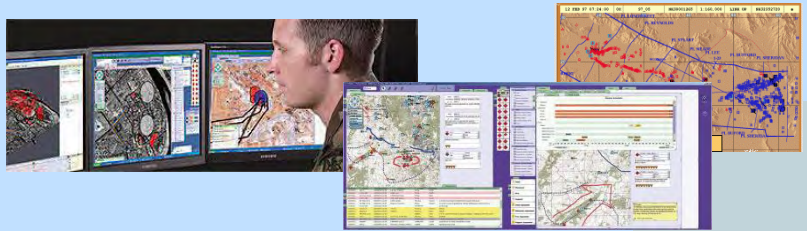


120mm Cannon



S&T Supporting the Current Force

Command & Control



Persistent Surveillance



Unmanned Systems



Power Sources



Soldier Protection



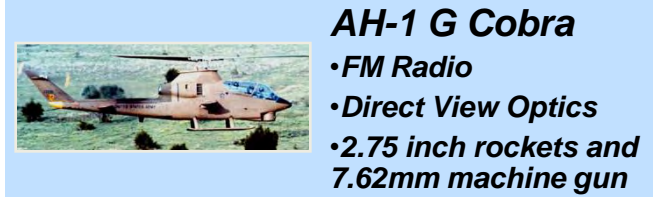


Complexity Demands Disruptive Technology

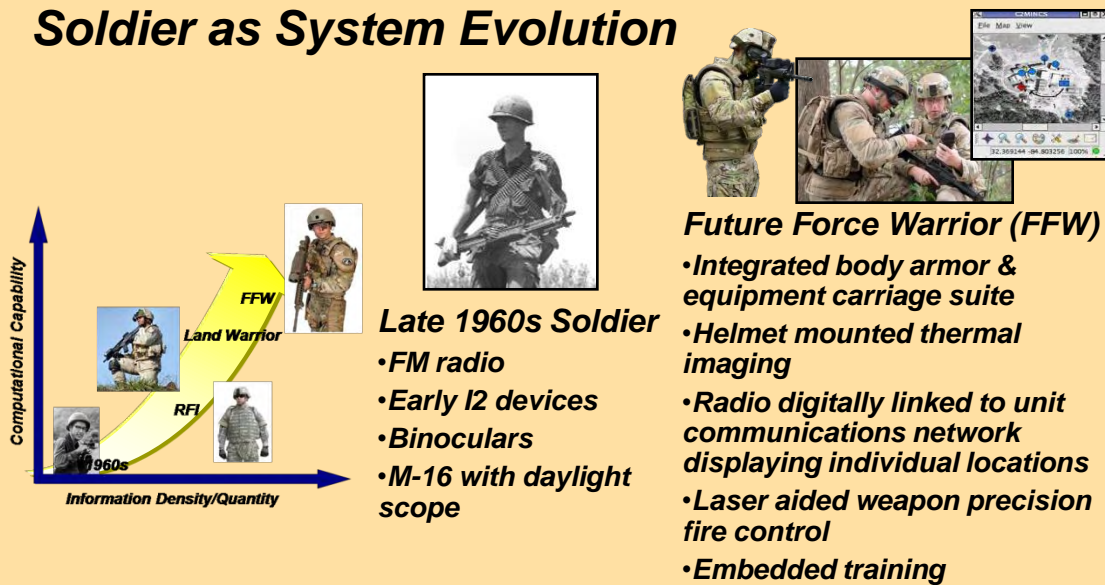
Ground Combat Vehicle Evolution



Helicopter Evolution



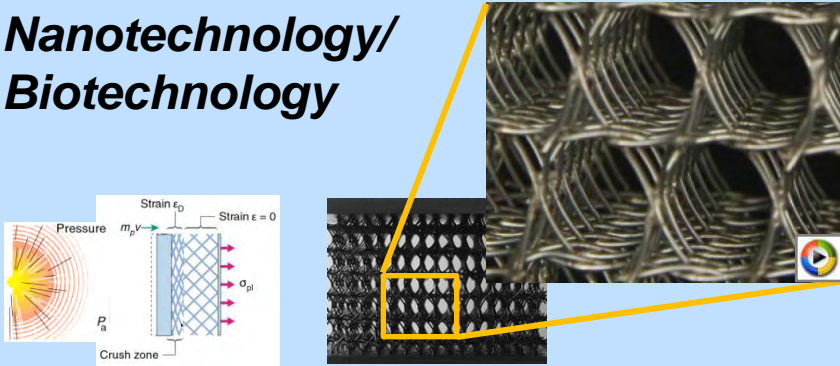
Soldier as System Evolution



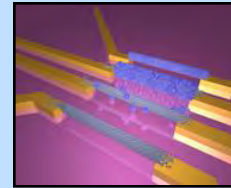


Science for Disruptive Technology

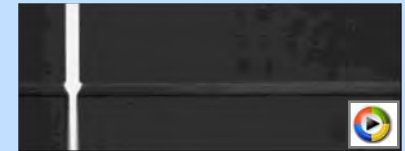
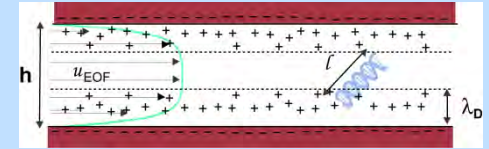
Nanotechnology/ Biotechnology



Bio-Inspired Energy-Dispersive Materials

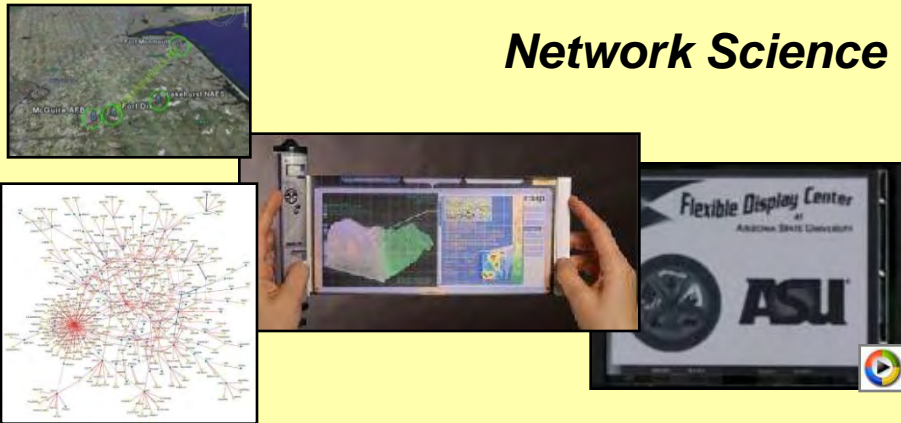


Virus-based Self-Assembling Electrodes



Nanofluidics

Network Science



Autonomous Systems



Nanoflyer

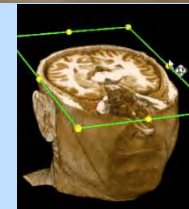
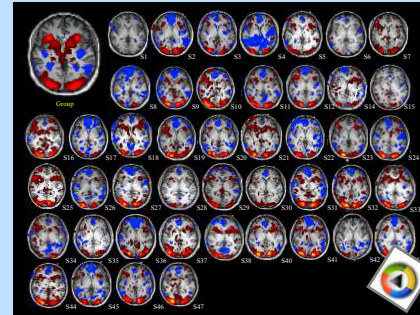
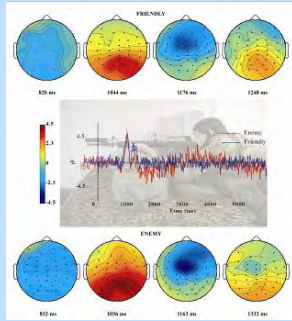
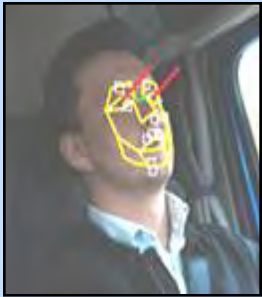


Micro Autonomous Systems Technology CTA



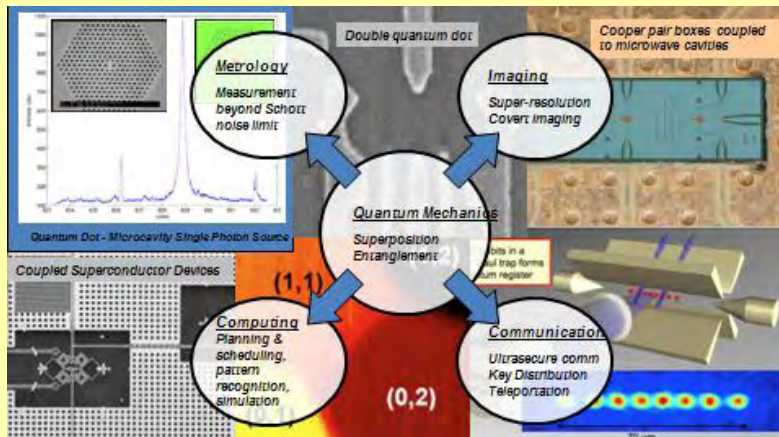
Science for Disruptive Technology

Neuroscience



fMRI

Quantum Information Science



Immersive Technology





Fostering Science and Engineering Careers



Students participating in bridge building exercise at George Washington University

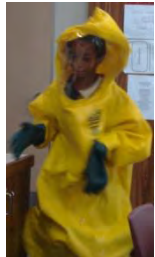
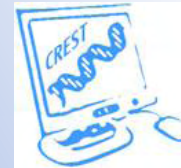


SMART
SCIENCE, MATHEMATICS & RESEARCH FOR TRANSFORMATION
PART OF THE NATIONAL DEFENSE EDUCATION PROGRAM



Experiences

Careers



Student in bio-suit at Walter Reed Army Institute for Research

Competitions



Tomorrow's Technology is in the Minds of Today's Youth



Army S&T... Engine of Transformation



**U.S. ARMY ARMAMENT RESEARCH,
DEVELOPMENT AND
ENGINEERING CENTER
2007 MALCOLM BALDRIGE
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