

16213

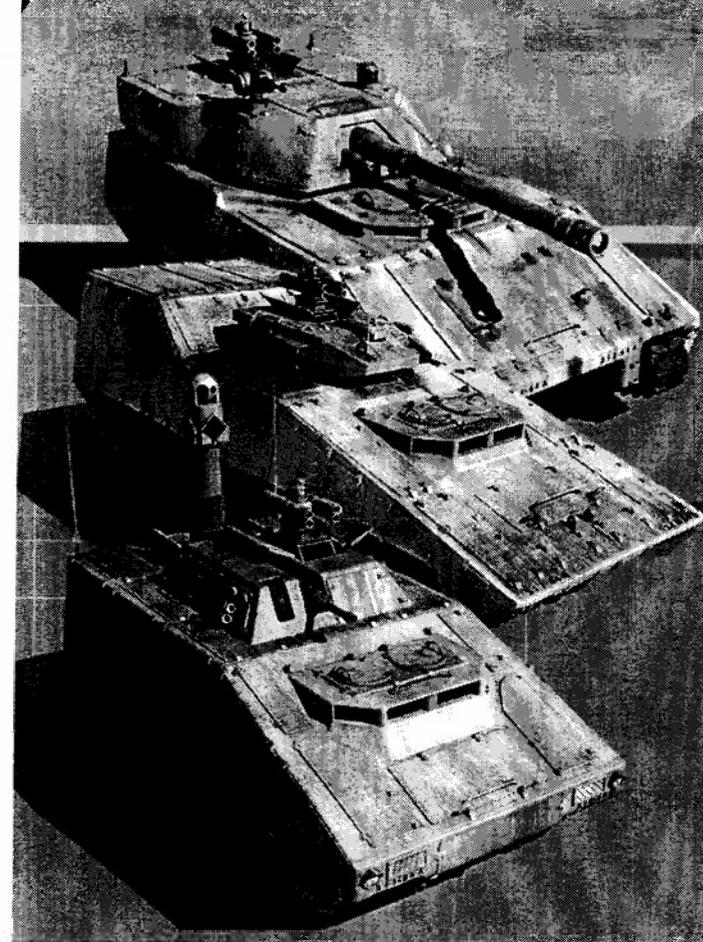


# TECHNOLOGY BASE INITIATIVES

## BRIEFING TO APBI

DR. RICHARD E. McCLELLAND

OCTOBER 2004



## Report Documentation Page

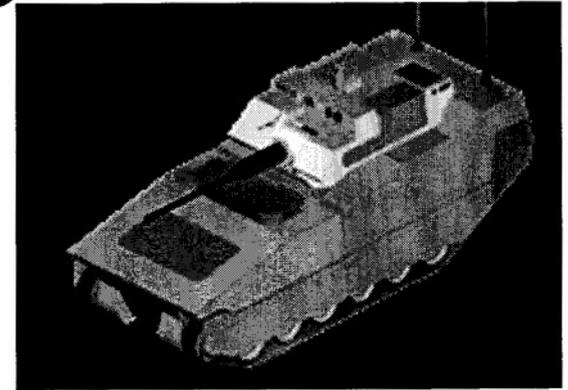
*Form Approved*  
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE <b>13 OCT 2004</b>	2. REPORT TYPE <b>N/A</b>	3. DATES COVERED <b>-</b>			
4. TITLE AND SUBTITLE <b>Technology Base Initiatives Briefing to APBI</b>		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S) <b>Richard McClelland</b>		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>US Army RDECOM-TARDEC 6501 E 11 Mile Rd Warren, MI 48397-5000</b>		8. PERFORMING ORGANIZATION REPORT NUMBER <b>16213</b>			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S) <b>TACOM/TARDEC</b>			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S) <b>16213</b>			
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>SAR</b>	18. NUMBER OF PAGES <b>17</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## Current Operations

## Army Transformation



**TARDEC**

U.S. ARMY TANK-AUTOMOTIVE RESEARCH DEVELOPMENT AND ENGINEERING CENTER

# FY 05 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### SURVIVABILITY TECHNOLOGIES

•Active Protection Testing	\$500K	EMRTC
•FCLAS Development	\$11.5M	Chang Industries
•Active Protection Modeling	\$100K	Gleason
•Engineering Support	\$250K	GS Engineering
•Engineering Support	\$500K	Optimetrics
•Active Protection Analysis	\$250K	MIT / Lincoln Labs
•Engineering Support	\$300K	Booz Allen
•Engineering Support	\$100K	Signal Solutions

# FY 05 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### SURVIVABILITY TECHNOLOGIES – CONTINUED...

•Armor Material Property	\$100K	Univ of Hawaii
•Armor Materials Support	\$300K	Sandia National Lab
•Adv Joining NDE Concepts	\$300K	Michigan State Univ
•Armor Material Research	\$100K	ARA
•Armor Modeling and Effects	\$1.3M	SWRI
•Assymetric Thyristor Switch	\$750K	Silicon Power Corp.
•Adv ATD Structure	\$1.2M	UDLP
•FCS Laser Hardened Vision	\$350K	Boeing / McD-Douglas
•Signature Modeling Validation	\$1.5M	Thermo Analytics
•Assured Mobility Motion Sim	\$120K	Dynamic Animation Sys

# FY 05 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### VETRONICS TECHNOLOGIES

•Vetronics Tech Integration	\$5.25M	GDLS
•Remote Imaging for UGVs	\$500K	Lockheed Martin
•Autonomous Urban SUGV	\$487K	iRobot
•ODIS	\$2.4M	Kuchera

# FY 05 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### WATER TECHNOLOGIES

•Water from Exhaust	\$250K	LexCarb
•Water from Air	\$1M	Mesosystems/Honeywell/Hamilton
•Water Monitoring	\$2M	Wayne State Univ
•NBC Water Treatment	\$2M	ACTI

# FY 05 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### MOBILITY TECHNOLOGIES

•Power & Energy SIL	\$1.5M	SAIC
•Test Platform Study	\$30K	SWRI
•Dynamic Sys Integration Lab	\$650K	DSIL
•Fuel Cell Consult	\$55K	TPS
•HE HMMWV Upgrade	\$1.5M	DRS
•High Pwr/Energy Li Ion Batteries	\$3M	SAFT
•6 X 6 Development	\$1.5M	NATC

# FY 05 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### MOBILITY TECHNOLOGIES – CONTINUED...

•Super-lattice SiC	\$200K	Titan
•Fastening & Joining Research	\$1.1M	Oakland Univ
•Combat Vehicle Research	\$3.5M	CTC
•FCS Engine Development	\$3.7M	Recardo
•FCS Dual Engine Development	\$1M	APT/FEV
•FCS Engine Development	\$3.7M	Honeywell
•FCS Engine Development	\$2M	DDC/MTU
•FCS Engine High Temp Tribology	\$200K	SWR
•Li Ion Battery Chemistry	\$7.5M	TJ Technologies

# FY 05 CONTRACT ACTIONS

## Existing Contracts / 05 Actions

### BRIDGING COUNTERMINE TECHNOLOGIES

•Lightweight Vehicle Mounted Countermine	\$455K	KRC
•Advanced Modular Composite Bridge	\$6.2M	Seeman
•Field Repair Composite Bridges	\$750K	Alphastar
•Innovative Wet Gap Crossing Technologies for FCS	\$120K	Triton
•Biodegradable Matting / Temp Roadways	\$70K	Texas Research
•Rapidly Deployable Gap Defeat Tech for FCS	\$1.6M	TBA

# FY 05 CONGRESSIONAL ADDS

Approximately \$152M in Projects

- Low Temperature Research Center
- Partnership for Next Generation of Vehicle
- University based Automotive Research Center
- Adv High Power Rechargeable Stored Energy
- Advanced Electric Drives
- Advanced Energy and Manufacturing Technology
- Affordable Low Temp High Performance Adv Rechargeable Stored Energy Device
- Army Trailer Technology Insertion
- Advanced Vehicle Life Consumption & Maintenance Prognostics
- Mobile Thermal Perimeter Surveillance System
- Battlefield Production of Hydrogen for Fuel Cell Vehicles
- CALSTART Defense Adv Transmission Technology
- Center for Tribology and Coatings
- Compact Pulsed Power for Defense Applications
- Distributed Transportable Synthetic Fuel
- Flexible JP-8 Pilot Plant Program
- Future Hybrid Vehicle Systems
- Light Utility Vehicle
- Military Wheeled Vehicle Electronic Architecture Integration

# FY 05 CONGRESSIONAL ADDS

Continued...

- Multi-purpose Utility Vehicle Reconfiguration
- Nano-Eng Materials for High Performance Armor
- Rapid Prototyping
- SmarTruck
- Stoichiometric Explosive Detector System
- Unmanned Vehicle Control Technologies
- Unmanned Vehicle Surveillance & Sensor System
- Wireless Sensors for Vehicle Maintenance
- Advanced Mobile Micro Grid Program
- Advanced Army Modular Composite Bridge
- Advanced Powertrain and Intelligent Control System for M-Gators
- Advanced Thermal Management Controls
- Aluminum Lightweight Structures
- Armored Composite Cab Development
- Battery Charging Technology
- CAV Technology Transition
- Combat Vehicle Research
- Composite Vehicle Research
- Development of Logistical Fuel Processes
- Digital Humans & Virtual Reality

# FY 05 CONGRESSIONAL ADDS

Continued...

- Electro chromatic Material Windows
- Fastening and Joining Research
- FREEDOM Software Environment
- Fuel Cell Ground Support Equipment Demonstration
- High Strength Powder Metal Gears for Transmissions
- IMPACT Concept Modeling Tool Suite
- Innovative Materials for Infrastructure Security
- International Commercially Based Logistical Support Trucks
- In-Theater Systems Development
- Military Vehicle Technologies
- Virtual Systems Integration Lab
- Hybrid Vehicle Test Maintenance
- Mobile Hydrogen Infrastructure (MHI)
- Modular Logistics Transport Technology
- Next Generation Non-Tactical Vehicle Propulsion
- N-Step Enabled Manufacturing Cell for FCS
- Opposed Piston Opposed Cylinder (OPOC) Engine for APU
- Pacific Rim Corrosion Program
- Rapid Optimization of Commercial Knowledge (ROCK)
- Rotary Multi-fuel APU
- Secure Pervasive Computing for Advanced Control Vehicles
- Tactical Vehicle Design Tools

# FUTURE TACTICAL TRUCK SYSTEMS ADVANCED CONCEPT TECHNOLOGY DEMONSTRATION

(FTTS ACTD)

Status:

Maneuver Sustainment Variants (MSVs)

- Awarded (2) Phase I Modeling & Simulation Contracts - \$4.9M Total
- Oshkosh Truck and Stewart Stevenson

Utility Variants (UVs)

- Pending Contract Award in October 04

FY 05 Planned Activities:

- MSV and UV Prototype Build Downselect in June 05 (limited to Phase I awardees)
- Phase II Prototype Build Contract Awards in July 05 - \$25M

NATIONAL AUTOMOTIVE CENTER POC: MR. PAUL SKALNY, 586.574.5436

# SMALL BUSINESS INNOVATION RESEARCH (SBIR)

FY 04 /05

- 54 Phase I Awards for FY 04 Valued at \$3,757,579
- 39 Phase II Selections for FY05 valued at \$28,525,066 with an additional \$1,687,843 in Options

# SMALL BUSINESS INNOVATION RESEARCH (SBIR)

➤ Pre-Solicitation – MAY 2005

➤ Open Solicitation – JULY 2005

TARDEC SBIR Managers: Mr. Alex Sandel, 586.574.7545

Mr. Jim Mainero, 586.574.8730

# FY 05 COMPETITIVE SOLICITATIONS

Other possible Solicitations may be released in FY 05

## VETRONICS TECHNOLOGY AREA:

POC: MR. DAVE THOMAS, 586.574.6160

- Autonomous Robotics Technology Integration \$3M
- Human Robot Integration Program \$300K

## SURVIVABILITY TECHNOLOGY AREA:

POC: MR. STEVEN SCHEHR, 586.574.5780

- Technical Support \$500K

# FY 05 COMPETITIVE SOLICITATIONS

Other possible Solicitations may be released in FY 05

MOBILITY TECHNOLOGY AREA:

POC: MR. DAN HERRERA, 586.574.6411

- |                                  |        |
|----------------------------------|--------|
| ➤ Dynamic SIL                    | \$1M   |
| ➤ Electric Motors and Inverters  | TBD    |
| ➤ Bi-Directional DC-DC Converter | \$488K |
| ➤ FCS Engines                    | TBD    |

---

TARDEC ACQUISITION SUPPORT TEAM REPRESENTATIVE:

MS. CASSANDRA MAXWELL, 586.753.2619

<http://contracting.tacom.army.mil/opportunity.htm>