



## **Center for Soldier Innovation (CSI)**

**Enhancing Human Performance for the Warfighter and First Responders**

20 November 2008

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## **S&T Board Requested CSI Business Plan**

The Business Plan Team Confirms That The CSI Will Provide Valuable New MA Capability

- All Natick RDEC/NSSC Science and Technology Board Member representatives have participated in the shaping of the CSI Business Plan;
  - Natick Soldier Systems Center (NSSC)
  - Mass Executive Office of Housing and Economic Development
  - Mass Executive Office of Public Safety
  - Mass Technology Collaborative/John Adams Innovation Institute
  - Mass Development
  - University of Massachusetts and UMASS Lowell
  - Defense Technology Initiative
  - Metro West Chamber of Commerce
  - Draper Laboratory
- The goals for the CSI:
  - Deliver solutions to critical and unmet soldier problems
  - Build close ties between Massachusetts organizations and the NSSC – maintain NSSC in MA
  - Increasing Massachusetts development and manufacture jobs
  - Stimulate creation of new firms in an emerging technology

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## CSI Focus

Address All Natick RDEC/NSSC Mission Areas

- The CSI will specifically address the critical and unmet needs for “soldiers”, where “soldier” is defined as those men and women that protect, serve and defend us;
- **Warfighter** = Army, Navy, Marines, Air Force and National Guard
- **Homeland Defender** = fire fighters, law enforcement, Coast Guard, Border Patrol Agents and Emergency Medical Services

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## Based On Successful Center Model

Four Centers Now In Operation -- All meeting Milestones

National Center for Maritime and Port Security (St. Petersburg, FL),

- Funding sources: \$20M State, \$20 Local government match (includes land and building)

Center for Advanced Drug Research (CADRE) (Harrisonburg, VA),

- Funding sources: \$22M State, Local government provides building

Center for Bio MEMS (Tampa, FL)

- Funding sources: \$10M State, \$6M Local government, \$4M University

MCM Pilot Facility (Tampa, FL)

- Funding sources: \$5M State, \$4M Local government

- Address important customer need
- Join with university – combine university *Research* with Center *Development*
- Center to obtain new funding and jobs for local economies
- State and Local government provides the seed funding
- Break-even in 3-4 years

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## CSI Special Objectives

Provide Benefit to NSSC and MA

- Define near and long term *needs* for the warfighter and homeland defenders.
- *Needs* will be shared with relevant Massachusetts organizations.
- Build teams – formal teaming agreements
  - Complementary capabilities – focused on developing product
  - Propose solutions – win contracts
  - Perform well – demonstrate in relevant environment
  - Manufacture at low cost facility – promote MA manufacture
  - Leverage military base capability to broad market – lower unit cost
- Mentor university partners –
  - Converting their ideas into new companies
  - Preparing students for applied research and development in private sector
- Work to ensure that Intellectual Property (IP) generated by the teams during contract execution will benefit all team members and Massachusetts state.

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## Human Dimension - Initial CSI Topic Thrust

Contact and Non-Contact Monitor Measures Cognition and Stress

- Consistent with the TRADOC “Big Five” challenge, where TRADOC has identified HD as one of the top 5 challenges for the Army
- Sub-topic: Cognition and Stress in Operational Environments
  - Soldier Availability – Soldiers in Iraq and Afghanistan are constantly facing a broad spectrum of stressors (physical and psychological): the impact to the individual from sleep, water and food deprivation, dehydration, multiple traumas, temperature extremes, and observing senseless death to name a few.
  - Firefighter Stress – One-half of today’s fire fighter deaths are attributed to stress related heart attacks.
  - Train or Truck Driver Attention – Drivers who are fatigued or otherwise impaired and falls asleep thereby causing a vehicle collision.

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## CSI Business Plan

Business Plan Defined – Seed Funding Needed to Proceed

- Clear need – Warfighters and Homeland Defenders > 4 million Americans
- Significant sources for revenue exist – Federal FY09 *Enhancing Human Performance* budgets > \$7 billion
- Financial Analysis
  - CSI will receive \$29 million revenue over the first 5 years of operation
  - The net impact to the local economy projected to be \$64 to \$96 million
  - CSI will break even in year 4, and be self sustaining in year 5
  - Approximately 40% of revenues realized by CSI will be subcontracted to Massachusetts organizations
- Massachusetts is being asked to provide
  - \$5 million seed funding over a four year period to establish the CSI
    - \$1.5 million in the first year of operation
  - Mass Development provides 10,000 sq. ft. facility in year 2