-- Human Systems Overview --
Community of Interest &
Priority Steering Council

Mr. Jack Blackhurst
Chair
Human Systems Community of Interest

Dr. John Tangney
Chair
Human Systems Priority Steering Council

National Defense Industrial Association
Human Systems Division Workshop
11 Sept 2012
Community of Interest Topics

• NDIA Human Systems Division
• Community of Interest Structure
• FY12 Accomplishments/FY13 Plans
• Defense Innovation Marketplace Demo
New NDIA Division
HUMAN SYSTEMS

Mission
To promote the exchange of technical information and discussions between government, industry, and academia, and the expansion of research and development in areas related to the human as a system whose performance must be integrated into any system of systems.

Objectives

- Advocate human-centered research and the integration of cognitive and biological technologies
- Promote discussions to make the “human factor” a top priority in Research, Development, Test and Evaluation (RDT&E)
- Conduct studies and prepare reports in response to requests from the DoD HS Community of Interest (CoI)
- Advocate, lead, and influence increased discussion and research on the elements of human-system integration (HSI) domains

Chair: Dr. Chris Nemeth, Applied Research Associates, Inc
Human Systems Community of Interest

Col Charter

Provide a framework for DoD Components DoD Executives, Scientists, Engineers, and Human Systems Integration Practitioners to:

• Share information, ideas, and best practices
• Identify opportunities
• Measure progress
• Jointly plan and coordinate programs across DoD
• Report on state of the health of the Human Systems Defense Technology Area and related Science and Technology (S&T)
Human Systems COI
Participating Organizations

- Army Research Laboratory – Human Research & Engineering Directorate
- Army Research Institute for the Behavioral and Social Sciences
- Army – MANPRINT Office
- Natick Soldier Research, Development, and Engineering System Center
- US Army Medical Research & Materiel Command
- Office of Naval Research – Warfighter Performance Department
- Navy – Human System Integration Engineering
- Navy – Naval Air Systems Command
- Navy Medical Support Command
- Air Force Research Laboratory – 711 Human Performance Wing
- Air Force Human System Integration Office
- Air Force Medical Service
- ASD(R&E) – Human Performance, Training, & BioSystems
- ASD(HA) – Force Protection & Readiness
- NATO Human Factors & Medicine Panel*
- DoD Human Factors Engineering Technology Advisor Group*
- Defense Threat Reduction Agency – Chemical/Biological Technologies*
* increasing linkage/participation
Human Systems
Operational Capability Scope

WARRIOR

ACQUIRE

TRAIN

EQUIP

ENHANCE

PROTECT

Human Resource Pipeline

Humanitarian Assistance

Leadership

Technical Competency

Acculturation

Accession

Retirement

Peacekeeping

Peace Enforcement

Combat

The Operational Continuum

READINESS

JWSTP - Joint Warfighting S&T Plan
Human Systems
Science & Technology Scope

System Interfaces
- Human-Machine Interfaces
- Human cognitive process modeling
- Decision-making models
- Human state modeling
- Applied Neuroscience
- Trust
- Metrics & measures of effectiveness

Personnel & Training
- Force management & modeling
- Selection & Classification
- Theory of learning
- Adaptive, tailored instruction
- Live, virtual, constructive sims
- Realistic immersive training
- Training methods, tech, & media
- Education & training strategies
- Innovative leader development
- Metrics & measures of effectiveness

Social & Cultural Understanding
- Cultural situation awareness
- Socio-cultural models & synthetic entities
- Socio-cultural data in denied areas
- Social network analysis
- Building partnerships
- Metrics & measures of effectiveness

Protection & Sustainment
- Extreme environment protection
- Combat clothing & protective equipment
- Extended combat rations & field feeding equipment
- Physical aiding
- Performance enhancement
- Vehicle escape & crash safety
- Survival & rescue
- Aerial delivery
- Warrior-System integration
- Metrics & measures of effectiveness

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Human Systems COI
Broad Elements

Human Systems Defense Technology Area

- **SICP**: System Interfaces and Cognitive Processing
- **PTLD**: Personnel, Training & Leader Development
- **PSPP**: Protection, Sustainment & Physical Performance
- **SCBU**: Social, Cultural and Behavioral Understanding
Community of Interest Topics

- NDIA Human Systems Division
- Community of Interest Structure
- FY12 Accomplishments/FY13 Plans
- Defense Innovation Marketplace Demo
**FY12 Accomplishments**

- Participate in technical conferences & workshops
  - Human-Centric Autonomy Workshop (September 2011)
  - Human Augmentation Workshop (March 2012)
  - HFETAG (April 2012)
  - NDIA Workshop (September 2012)
- Support PSC activities

**FY13 Plans**

- Participate in technical conferences & workshops
  - I/ITSEC (December 2012)
  - IR&D Technical Interchange (Spring 2013)
  - NDIA Conference (2013)
- Operationalize initial Human Systems Marketplace
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Defense Innovation Marketplace

• Centralized online resource to better connect industry with government customers and invigorate innovation

• Industry: Place to learn about DoD investment priorities and capability needs

• Government: Provide new search tools to assess and leverage industry technology projects

Connecting Industry with Government Customers

The Defense Innovation Marketplace is a centralized online resource to better connect industry with government customers to invigorate innovation.

For Industry, the Marketplace is the place to learn about Department of Defense investment priorities and capability needs, and comply with the new Defense Federal Acquisition Supplement (DFARS) rule.

For Government, the Marketplace will provide new search tools to assess and then leverage industry technology projects for current and future programs.

NEW IN THE MARKETPLACE

S&T Strategic Documents
- DoD Mobile Device Strategy
- Science and Technology Priorities for the FY 2014 Budget
- Sailing the Great Green Fleet
- 21st Century Naval Amphibious Capability

Doing Business with DoD
- Air Force Information
- Other DoD Agencies
- Armed Aerial Scout (AAS) Industry Day
- AAS RFI Day Q&A from Industry
- Navy Information

News & Events
- Rapid Innovation Fund 2011 Update
- 2012 SWE S&T Industry Day
- Expansion of Voluntary Cybersecurity Information Sharing Activities

Resources
Useful DoD and Service Information for business and program planning here

Industry
Market Your Innovation to DoD Customers here

Government
Find Details about Industry’s Innovation Projects here

Resources
Click Here to sign up for RSS feeds
Defense Innovation Marketplace
DoD Sight Picture

Strategic S&T Overview

US S&T Priorities
- Science and Technology Priorities for the FY 2014 Budget
- Science, Technology & Innovation For National Security

S&T FY13 Testimony
- Assistant Secretary of Defense for Research and Engineering (ASD(R&E))
- Army
- Navy
- Air Force
- DARPA

Other Recent Testimonies
- ASD(R&E) Cybersecurity
- DARPA Cybersecurity
- ASD(R&E) Laboratories

Service S&T Priorities
- DoD Defense Budget Priorities
- Army S&T Strategic Direction
- Naval S&T Strategic Plan
- USAF S&T Strategic Plan
- Missile Defense Program Strategic Plan
- US Special Operations Command S&T Strategic Plan
- Unmanned Systems Integrated Roadmap
- Strategic Direction to the Joint Forces

S&T Emphasis Area Roadmaps
- Autonomy
- Cyber
- Countering Weapons of Mass Destruction
- Data-to-Decisions
- Engineered Resilient Systems (ERS)
- Electronic Warfare / Electronic Protection
- Human Systems

General Service Strategy Documents
- Sailing the Great Green Fleet
- 21st Century Naval Amphibious Capability
- 2012 Army Strategic Planning Guidance

Doing Business with DoD

Resources by Organization
- Army
- Navy
- Air Force
- Other DoD Agencies

Rapid Innovation Fund
- 2011 Update
- 2012 Fact Sheet

Small Business Innovation Research (SBIR) Awards
- DoD SBIR Awards
- Army SBIR Website
- Navy SBIR Website
- Air Force SBIR Website
- DARPA SBIR Website

Industry Day Presentations
Industry Days are held to inform industry about opportunities to work with the Department of Defense.

Army
- Armed Aerial Scout (AAS)
- Industry Day (4/26/2012)
- AAS RFI Day Non-Proprietary Questions from Industry (4/26/2012)
- AAS RFI Synopsis Description (4/26/2012)
- Armored Multi-Purpose Vehicle (AMPV) (4/26/2012)

Navy
- Maritime Tactical Command and Control (11/2/2011)
- Air Vehicle Modification and Instrumentation (11/2/2011)
- Shipboard Automated Landing Technology Innovation Program (11/2/2011)
- Demonstration System Development for Advanced Shipboard Desalination FNC (11/2/2011)

DoD Agency BAA
- Defense Threat Reduction Agency
- Defense Advanced Research Projects Agency
- Missile Defense Agency
- Joint Program Executive Office for Chemical & Biological Defense

Other Government Funding Sources
- Federal Business Opportunities

Request For Information (RFIs)
- Family of Advanced Beyond-Line-Of-Sight Terminals (Air Force)
- Medium Range Precision Strike System (SOCOM)
- Autonomous Robot (ARMY)
- Defense Acquisition Challenge (ASD(R&E))
- Compact Rapi-Rate Pulsed Power for Driving Railguns (NAVY)

Featured Solicitations
- 2012 Big Data Solicitations
- Current S&T Emphasis Area Solicitations

Other Open Solicitations
Army BAAs
- Army Engineer Research and Development Center
- Army Research Laboratory/Army Research Office
- Navy BAAs
- Naval Research Laboratory Contracting Division
- Office of Naval Research
- Air Force BAAs
- Air Force Office of Scientific Research
- Air Force Research Laboratory

DoD Licensable Patents
DoD laboratories have created thousands of patents for technologies that can be licensed for commercial products and manufacturing processes.
- Browse DoD Patents

Subscribe to RSS feed updates
Defense Innovation Marketplace
Example: AF Sight Picture
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NEW IN THE MARKETPLACE

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News & Events

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| · 2012 SWE S&T Industry Day |
| · Expansion of Voluntary Cybersecurity Information Sharing Activities |
| · Document X |
| · Document Y |
| · Document X |
| · Document Y |
| · More... |

Updated July 12
HS COI Pilot Program Plan
Goals

• Make the Defense Innovation Marketplace a robust information environment for Human Systems Gov’t, Industry, and Academia interaction

• Leverage the Marketplace to provide needed IR&D Program insight on what industry can do to address important DoD needs at a Human Systems COI level
  – Want enough information to get Human Systems health status
  – Includes all investment types; from gov’t and industry we need, programs, budget and maturity.
Fall 2012: Human Systems COI will use the Marketplace to provide detailed information to industry on technical interest areas

- **Industry** will have opportunity to submit information on their R&D investments in Human Systems through the Marketplace. *(Information will be protected and available only to select Government personnel)*

- **HS COI** will use this information to determine opportunities to accelerate and strengthen technical development.

- **HS COI** will invite firms to participate in a **Spring 2013** collaborative technology technical interchange.

**GOAL:** Improve the strategic placement of CRAD investments to accelerate and strengthen technology development and to support future acquisition programs through more efficient communication and planning


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Defense Innovation Marketplace
Human Systems Pilot Program Demo

• Demonstrate how to navigate several website capabilities
  – Overall Marketplace design and potential data
  – Access our Human Systems CoI data and related business opportunities
  – Walk through questions aimed at aligning IR&D projects to our CoI needs
• Computers manned by DTIC and ASD (R&E) reps today only
• Ask questions and give feedback!
• Available soon - check Defense Innovation Marketplace and FEDBIZOPPS
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