STRATEGIC PARTNERING
DoD Maintenance Symposium
Panel - Manufacturing within DoD
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• We are a nation at war – ARDEC seeks to develop joint programs and collaboration opportunities with Army, other service, international, industry and academic partners to:

- Accelerate fielding of advanced technologies in support of current operations
- To maintain investments and core capabilities in Future Force technology

• ARDEC uses a variety of non-traditional ways to maximize collaboration opportunities throughout the Life Cycle
ARDEC - Our Mission

The Brainpower Behind the Firepower

Research  Development  Production

Field Support  Demilitarization

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.
Rapid/sweeping changes in technology requires “Open Innovation” processes

- Changing customer (e.g., Lead System Integrators)
- Broaden our customer base
- Need to transition to warfighter quicker
- Controlling costs (e.g., BRAC, Soft Landing, budget threats)

Rapid Prototyping for the Current Force

Advanced Materials & Nanotechnologies

IEDs/Asymmetric Threats

Remote Armament Systems

Novel Power & Energy Systems

Why We Partner

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.
User Needs and Technology Opportunities

(A) Concept Refinement
(B) Technology Development
(C) System Development and Demonstration

- Concept Decision
- Pre-Systems Acquisition
- Systems Acquisition
- Sustainment

- Design Readiness Review
- LRIP / IOT&E
- FRP Decision Review

Program Initiation

IOC

FOC

User Needs and Technology Opportunities

Systems Acquisition

Operations and Support

Technology Driven. Warfighter Focused.
ARDEC Partnering Process is Strategic

Starting Point

STRATEGIC VISION

Strategic and Business Plans
- TRADOC FOCs / Gaps
- Army S&T Plan
- ARDEC S&T Plan
- PEO / PM Roadmaps
- Competitive Intelligence
- Industry/Business Trends
- PEST Analysis

Competency Plans
- Fire Control Systems and Technology
- Face and Precision Armaments Technology
- Logistics Research and Engineering
- Munitions Systems and Technology
- Quality Engineering and System Assurance
- Systems Engineering, Analysis and Configuration Management
- Weapons Systems and Technology
- Energetics, Warheads and Environmental Technology
- Explosive Ordnance Disposal

Capability Gaps
- SKILLS
- EQUIPMENT
- FACILITIES
- RESOURCES
- TECHNOLOGIES

What We Need
- Make or Buy, or Partner

T2 Toolkit

Technology Transfer Partnerships

Intellectual Property Strategy

IR&D Process

Marketing and Communications Plans

TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.
### TECHNOLOGY TRANSFER PARTNERING AGREEMENTS

- Alliances – *See MOA/MOU*
- Bailment Agreements
- Contracts
- Cooperative Agreements (CA)
- Cooperative Research and Development Agreements (CRADA)
- Data Exchange Annex (DEA/IEA) *(International Agreement)*
- Educational Partnership Agreements (EPA)
- Foreign Military Sales
- Grants
- Interagency Support Agreements
- Intergovernmental Cooperation Act
- Project Arrangement (PA) *(International Agreement)*
- MOAs/MOUs – *See Alliances*
- Other Transactions (Prototype)
- Other Transactions (R&D)
- Partnership Intermediary Agreements (PIA)
- Patent License Agreements (PLA)
- Personnel Exchange Agreements
- Test Service Agreements

### OTHER AGREEMENT MECHANISMS

*(that may assist in the Technology Transfer Process)*

- BRAC Out Grant
- Facility License
- Facility Use Agreement
- Lease (Enhanced Use or Facility)
- Lease (Historical)
- Lease (Underutilized Property)
- Legislative Outgrant (Transfer to Community)
- Morale, Welfare and Recreation
- Excess Property Disposal
- Special Legislation

Not an all-inclusive listing

✓ = ARDEC has done
The CRADA is a vehicle that allows ARDEC to insert technology into FCS (NLOS-C, NLOS-M, ICV, MCS) that will make future armament systems lighter, more precise, more lethal, and easier to deploy and support logistically.

Annexes to date with BAE Systems:

- Stryker Reactive Armor
- Modeling & Simulation
- XM291 Cannon
- Hybrid Electric Propulsion
- Mortars
- Trajectory Correcting Fuze
- Gun Barrel Technology
- Non Line of Sight Mortar
- Artillery Weapon Demonstrator
- Non Line of Sight Cannon
- Advanced Energy
- Electromagnetic Technology
- ETC Ignition
- Fire Control Software for NLOS-M
- Firing Tables & Aiming Data

Similar Agreement with General Dynamics
Other CRADA Samples

Future Combat System NLOS-Cannon

Active Protection Systems

Excalibur IM Container/Packaging

Remote Armament Systems
**Test Service Agreement**

“Our unique capabilities are available to help industry”

**Authority: 10 USC 2539b**

- ARDEC may sell services for Testing (materials, equipment, models, computer software, etc.)
- Customer required to pay full cost
- Fees retained by ARDEC activity performing the test

**Sample TSA Customers**

- Action Mfg - FRAG12 Ballistics
- ALTEC – Env. test PC speakers
- AT&T - Electronics temp. test
- Bellcore - Flywheel containment simulation
- Day & Zimmerman - XM236 SD Fuze
- Drexel University - Powder metallurgy evaluation
- GEC Marconi - Environmental test
- Hechler & Hoch - 40mm ammo demo
- NJ Polymer – X-ray battery cases
- Noise Unlimited - Vibration Test
- Potter Industries - High Speed Video
- Textron – EFP Warheads
- Weiss Aug - Medical device failure

**Benefits to ARDEC:**

- Leverages resources to enhance our facilities and capabilities
- Supports our industry partners
- Lowers acquisition costs by sharing resources
- Promotes technology transfer goals

Partnership Intermediary (15 USC 3715)
ARDEC’s Partnership Intermediary - InSitech

PICATINNY, NJ Site

InSitech
Partnership Intermediary 501(c) (3) Not-For-Profit

SITE DEVELOPMENT
“Master Lease Holder”
120 Acres of Land
100k sq. ft of non-excess Facility space

ADVANCED TECHNOLOGY CENTER
Operate and Maintain Homeland Defense Tech & Training Test Bed Center

TECHNOLOGY ACCELERATION
Intellectual Property Data Exchange Point

TENANTS
Private Sector
Academe
Small Business
OGA’s

SITE DEVELOPMENT
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TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.
InSitech

Finds and Delivers Non Traditional Technologies

Co-locates Traditional Suppliers and mission related tenants

Leverages Non Traditional Funding

ARDEC

Provides Solutions for the War fighter

Gains Access to technology Solutions from leveraged Academe, Industry, and OGA outreach

Receives Value/Funds for:
1. Technology Acceleration
2. Infrastructure Improvements
3. Commercial Investment

Establishes an economic engine that has at its foundation government, “non traditional” and DoD industry IPT (s) that provide solutions for the Warfighter.
Consortia
Defense Ordnance Technology Consortium

DEFENSE ORDNANCE TECHNOLOGY CONSORTIUM (SOCOM, DARPA, DTRA, and Munitions Labs of Army/Navy/AirForce/DOE)

Seven Year Other Transactional Agreement (FY01-07)

National Warheads & Energetics Consortium

CRADAs Test Service Agreements DEAs Contracts

Large Businesses

Small Businesses

Consortium Member Agreement

Universities

Non Profit Organizations

Industry

Universities

Not for Profit Organizations

Foreign
University of Iowa
Involve faculty and graduate students from National Automotive Driving Simulator in research projects involving systems engineering and integration, environmental testing, hardware fabrication and prototyping, research and development on logistics readiness, packaging, product sustainment and asset reutilization, and field support for packaging systems.

Penn State University
• Materials and composites
• Modeling and simulation
• Rapid prototyping
• Information processing and decision aides
• Non-lethal deterrents

Rutgers University
• Develop and demonstrate new environmental design and management strategies to enhance and support the environment.
• Encourage student interest in efficient facilities planning, sustainable economic and ecological development, science, mathematics, and engineering

Rensselaer Polytechnic Institute
• Nano-technologies
• Sensors for defense and homeland security
In Summary

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